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A SWANNER COMPANY

*Goodyear Nelson
Hardwood Lumber Co., Inc.*

P.O. Box 997 • Bellingham, Washington 98227 • Phone: (360) 733-3960 • FAX: (360) 733-0803



EM 77
RECEIVED

OCT 16 2002

STATE LANDS DIV

October 11, 2002

Dept. of Natural Resources
SEPA Center
P.O. Box 47015
Olympia, WA 98504-7015

Last night's hearing in Bellingham made it difficult to respond to the Alternatives. I hope that the Preferred Alternative is one as close to Alternative one as possible. Going from managing 75% of your land down to 57% of your land in one step is simply not acceptable! It seems to me, given the water quality reports from DOE and DOH that forest management in the watershed has been very good! It would appear that Lake Whatcom needs most of its protection from the people living and playing around the lake. The current management regime used by the DNR along with watershed analysis will more than protect the lake from forestry.

The Board may want to look at a new process that brings together land managers and watershed managers to come up with a Preferred Alternative that treats the trusts more fairly than these five Alternatives.

Sincerely,

Paul Kriegel
Resource Manager

From: "Paul Kriegel" <paul@mtbakerplywood.com>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Fri, Sep 20, 2002 3:12 PM
Subject: Lake Whatcom

I was a part of an industry meeting held in Sedro-Woolley that went over the Lake Whatcom plan. It seems obvious to me that in the 5 Alternatives being chosen, our comments from that meeting were not considered, and even though we were told we had equal standing with the Lake Whatcom Committee the only alternatives are coming from the Legislature or the "Committee". We were also told that we would be meeting again before the final results were out, but if these are the only alternatives to be considered it seems pointless! I believe there is middle ground between Alternatives 1 and 2 that should be considered.
Exactly where does this leave us in the process?

Paul Kriegel
8223 Hennings Dr.
Stanwood, WA 98292
360-708-8202

CC: "Will Hamilton" <hamilton@rockisland.com>

From: Don Wallace <DonWallace@HamptonAffiliates.com>
To: "'sepacenter@wadnr.gov'" <sepacenter@wadnr.gov>
Date: 10/10/02 8:46AM
Subject: Lake Whatcom

I believe that the best choice for the lake Whatcom area for is alternative #1. I t appears to me that the forest is the answer not the problem. Let's actively manage the forest for the benefit of the trusts

Thank you
Don Wallace

From: Cathy Brooking <cathyb2@earthlink.net>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: 10/14/02 9:35AM
Subject: lake whatcom PDIS

Thank you for the workshop of October 10 on this topic. I found it to be informative, well organized and representing a huge amount of work and effort. I have lived within the Lake Whatcom watershed for 23 years beginning in 1979. All but 7 of those years were spent on North Shore Rd near Carpenter and Olsen creeks. I experienced the debris floods of the early '80s and saw the devastation of poor forestry practice. Since that time I believe much has been learned about preventing such events. I have confidence that DNR will continue to follow these safe forest management guidelines.

Personnally, I believe the building of private homes by developers and private individuals are impacting our watershed in a much more dangerous way than even poor forest activities. Forests are renewable and asphalt and all that it brings with it is permanent. I strongly believe in a good public education system and support our State in raising the money to help keep our public education strong which means using our forests in a responsible way.

I would like to see wide protection of the riparian areas, the width dependant on the size of the stream and steepness of the slope and no logging or selective logging on steep, unstable slopes. I would also like to see the cuts be spread around and kept smaller to decrease the visible impact as well as prevent large areas to be cleared of foliage and the structures that hold the slopes.

I realize the responsibility of the DNR to provide funding for the trusts as well as being answerable to the public for safe and responsible forestry practices. It is a hard position to be in. You are a large, visible entity using tax dollars. The public needs to understand the value of the timber industry to our economic well being. As several audience participants stated, education is important and our counties and cities benefit from safe, healthy industry in numerous ways.

The building industry is wealthy and has basically no one to answer to. They claim loss of revenue when land is down zoned. They don't seem to realize the land they own is an investment and no investment is safe from the possiblilty of loosing value.

Thank you for presenting the proposals to protect our lake and community water quality.

Cathy Brooking
2600 North Shore Rd.
Bellingham, WA. 98226

EM3

From: <Hansen518@cs.com>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: 10/17/02 7:47PM
Subject: Lake Whatcom PDEIS comments

As a concerned citizen of Glenhaven, I've been very concerned about the logging on Lookout Mountain and it's impact on our community. I attended the DNR meeting at Bloedel Community Center last week and reviewed the 5 alternatives. After very careful consideration, I believe that Plan 4 offers the best protection to the Lake Whatcom watershed and to the aquifer that feeds the Glenhaven community wells. If we lose our water supply, our community will be devastated, and without a remedy to replace it.

Our neighborhood also has grave concerns about the impact of logging on a very steep and historically unstable mountainside. This is an area that has already been hit by two major landslide events in the last twenty years. Further logging on Lookout cannot possibly help the situation, but in all likelihood increase the risk of future slides.

Please take my comments into consideration as you make your decision.
Thank you,
Lori Hansen
419 Lakeside Drive
Sedro-Woolley (Glenhaven) WA 98284.

EM 4+5

From: Rick Gantman <RGantman@mtbaker.wednet.edu>
To: "'sepacenter@wadnr.gov'" <sepacenter@wadnr.gov>
Date: 10/23/02 1:01PM
Subject: Input on Whatcom PDEIS

Please accept the two attached letters as input on the Lake Whatcom PDEIS.
A printed copy of each letter on letterhead has been mailed by US Post.

Thank you for your consideration.

<<Lk What PDEIS input 10-21-02.doc>>

<<Lk What watershed 10-18-02.doc>>

Dr. Richard Gantman
Superintendent
Mount Baker School DIstrict
P.O. Box 95
Deming WA 98244
voice 360/383-2007
FAX 360/383-2009

October 21, 2002

SEPA Center
Washington State Department of Natural Resources
1111 Washington Street S.E., M.S. 47015
Olympia, WA 98504-7015

RE: Public Input on the Lake Whatcom PDEIS

Dear DNR:

Please accept this letter as formal input on the *Draft Alternatives for a Landscape Plan Proposal* and the related *Preliminary Draft Environmental Impact Statement* (PDEIS). I am writing this letter as a concerned citizen and as the superintendent of Mount Baker School District. As the Department of Natural Resources (DNR) reviews the PDEIS, public input, and other information, I am sure that it will want to consider its obligation to manage Trust Lands in the interest of the children in our local communities, one of the Trust Lands most significant beneficiaries. The interests of our children can only be served if decisions are made with a balance of concerns for the environment, the economy, and specific revenue interests.

First and foremost, I urge the DNR to keep in mind its "legal duty to produce long-term income for specific trusts, which are the trust beneficiaries" as clearly stated in the PDEIS (p. 16, sec. 2.2). One of the primary purposes of the DNR is to manage the lands in a manner that will ensure the revenue generating capacity of the trust lands that it manages. Doug Sutherland states, "...much of [DNR managed] land is dedicated to supporting public institutions like schools... ." Additionally, the DNR makes the following statements (from the DNR website):

- ✓ "While all of the lands are managed to protect native fish and wildlife habitats, most are state trust lands, managed to earn money to help fund construction of public schools and universities, or fund local services - hospitals, libraries fire districts, school operations in many counties."

And:

- ✓ "Unlike many states, Washington kept most of its trust lands to provide a continuous flow of income to build public schools, universities, community colleges, prisons, state institutions such as mental hospitals, and Capitol buildings."

The PDEIS does a thorough job of analysis of the environmental impact of each of the five alternatives. Each alternative was evaluated for the impact it would

EM4

have on the *Natural Environment* and the *Built Environment*. One subsection of the second category was the impact on Public Services and Utilities. Addressed in this subsection was the impact on the Common School Construction account. The fact that there will be a significant impact on revenue for local school districts is not addressed in this section or elsewhere in the report. Additionally, the approximate size of these impacts is not discussed. While it may be beyond the scope of an environmental impact statement, it is of critical importance that the DNR conduct a financial impact study to ensure that all consequences of each alternative be considered.

Secondly, I want to address the overall implications of the general approach suggested by the PDEIS. The process considered the following categories of criteria:

- ✓ Ecological impact
- ✓ Tribal interests
- ✓ Revenue
- ✓ Community concerns

While these are certainly important areas that should have been studied, limiting the evaluation to these four areas is insufficient. It is clear (as stated above) that specific impact on trust land revenue must be considered. Also it is important that the DNR consider the following areas of concern in addition to the four that were studied:

- ✓ General economic impact on the local community
- ✓ Other competing interests that impact water quality and could be controlled in through other action
- ✓ Alignment between the legislation that caused the PDEIS to occur and the purpose of DNR managed trust land
- ✓ Other legal implications of the proposed alternatives

Thank you for the opportunity to provide input to the EIS process. Please feel free to contact me if there is any additional information that you are interested in.

Respectfully,

Richard Gantman, Ed.D.
Superintendent
Mount Baker School District

October 18, 2002

SEPA Center
Washington State Department of Natural Resources
1111 Washington St. S.E., MS: 47015
Olympia, WA 98504-7015

RE: Public Input on the Lake Whatcom PDEIS

Dear Department of Natural Resources:

As a recipient of revenue from county transfer lands managed by the Department of Natural Resources in the Lake Whatcom watershed, Mount Baker School District is concerned about the financial impact of proposals included in the Lake Whatcom Landscape Plan PDEIS, September 13, 2002. The Department of Natural Resources has a legal obligation to the trust recipients to produce revenue on a long-term basis. Revenue generation should be maximized within the constraints of prudent, sustainable management.

Mount Baker School District urges the Board of Natural Resources to adopt Alternative 1 as the Lake Whatcom Landscape Plan. Alternative 1 is the only alternative that meets the trust revenue production obligations while providing appropriate environmental protections. The only quality that significantly differentiates the Lake Whatcom watershed from all other DNR-managed lands is the fact that Lake Whatcom serves as a municipal water supply. The November 15, 2001 letter from Megan White of Washington Department of Ecology included in the appendix to the PDEIS indicates quite clearly that standard Forest Practice Rules combined with the current watershed analysis prescriptions are sufficient protection for water quality in Lake Whatcom watershed.

In evaluating the alternatives for the Lake Whatcom Landscape Plan, the Board of Natural Resources must balance legal requirements for environment protection with trust obligations. It has been argued that Alternative 1 of the PDEIS is in conflict with provisions of SB 6731 restricting new road construction. If the new road construction restrictions included in Senate Bill 6731 Sec. 1 (3) are interpreted to reduce revenue production to the extent outlined in Alternatives 2 through 5 of the PDEIS, then that interpretation would conflict with legal obligations to produce trust revenue. The restriction on new road construction would not provide any significant additional protection of water quality that is not already provided by current regulations. The potential revenue reductions of

BHS

Alternatives 2 through 5 are too great to justify their adoption. If there is a conflict between laws, submit this issue back to the legislature.

The Lake Whatcom PDEIS gives inadequate attention to the revenue production obligations of the DNR. No financial impact statement is included. No consideration is given to a funding source and mechanism to reimburse Mount Baker School District for any future forgone income if Alternatives 2 through 5 are adopted.

As a school district our greatest concern is the impact on children. We currently have insufficient revenue to fund all that we should be doing. The revenue generated by county transfer land in Lake Whatcom watershed allows us to provide programs that make a real difference in children's lives. Don't trade our very real and important programs for environmental restrictions that would have no significant benefit to water quality.

On Behalf of the Mount Baker School District Board of Directors,

Ellen Dodson
President
Mount Baker School District Board of Directors

Russ Pfeiffer-Hoyt
Mount Baker School District School Director

516

From: "Kerri Cook" <cookk2@cc.wwu.edu>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: 10/23/02 10:12PM
Subject: Lake Whatcom DPEIS

Washington State Department of Natural Resources
Subject: Lake Whatcom Draft Preliminary Environmental Impact Statement

To Whom It May Concern:

In accepting your invitation to provide input regarding the forest values that should be considered in the Lake Whatcom Landscape Plan, I would like to offer my personal perspective on the infinite values of biodiversity within our watershed.

Revenue generated by timber harvesting appears to be the argument of primary concern when viewing the financial analysis for determining a course of action. A regime of intense timber harvesting is estimated to produce between \$1,560,000 and \$1,729,000 per year, which would theoretically accrue in the state general fund for public services. As a harvestable, economically significant product, timber is valued as a good that not only meets consumer demands, but also provides employment opportunities and revenue for DNR. The diverse ecological community that thrives within the timbered slopes of the Lake Whatcom watershed, however, provides additional goods of value. Special forest products, while providing insignificant income in comparison to intense timber

harvesting, are often the result of diversity. Chanterelles, forming a mycorrhizal relationship with Douglas-firs, lead the Northwest's wild mushroom trade in pounds; only matsutake-also found in the watershed-and morels surpass the chanterelle in dollar value. Species diversity of existing timber translates into species diversity among the organisms within the timber ecosystem, whether those species are edibles, floral products, or pharmaceutical extracts. By providing the habitat for such diversity to thrive, we are essentially spreading the dollar value of a brief timber harvesting over an extended, but presently unknown, period of time.

Leaving the timber structure in place also ensures the continuation of valuable services provided by the forest ecosystem of the Lake Whatcom watershed. Because Lake Whatcom acts as the reservoir for the drinking water of Bellingham residents, the City of Bellingham is held accountable for ensuring the water quality of our reservoir. Although DNR is not directly responsible for water quality, DNR does have an obligation to the public to prevent serious environmental degradation to the system. The complex network of the forest ecosystem below ground performs the artificially expensive process of water filtration and treatment free of charge. A diverse array of microorganisms too numerous to be quantified perform the priceless functions of absorbing and breaking

down pollutants, storing and cycling nutrients, forming soils, and maintaining soil fertility. Moreover, these microorganisms are directly associated with the slow release of water (arriving in the form of precipitation) from fertile soils that replenishes the Lake Whatcom reservoir at a rate comparable to that of human needs, ensuring an adequate source of water during the dry summer months. It is because of the diversity among these microorganisms that they can colonize and fill specific niches in the

forest ecosystem to the extent that they do. In providing pre-reservoir filtration and treatment of water, the species-rich soil communities of microorganisms within the Lake Whatcom watershed save the City of Bellingham considerable costs in water

treatment. As part of a benchmarking initiative to identify the best city practices in Ontario, Thunder Bay reported operating costs for water treatment to be US\$72.81 per million liters. Lake Whatcom contains 1234 billion liters of water; the cost of filtering this quantity based on the Thunder Bay report amounts to nearly \$90 million dollars. Although filtration is still necessary prior to human consumption, the pre-reservoir filtration by microorganisms likely offsets the costs of complete treatment by a significant amount (disregarding the fact that it may later become polluted again from activities and events both on and around the Lake).

Species diversity within the Lake Whatcom watershed directly translates into genetic diversity, which in turn provides value in the form of information and potential knowledge. In a Seattle lab just south of our watershed, Christopher Viney is studying the potential uses of silk from the golden orb weaver spider (*Nephila clavipes*) at the University of Washington. Ounce for ounce, spider silk is five times stronger than steel, and when compared to Kevlar, it can absorb five times the impact force without breaking. Not only is spider silk strong, tough, and highly elastic, it also is biodegradable and economically valuable. If we could learn to mimic this process of the spider, we could use a soluble raw material that is infinitely renewable to make an inc

redibly strong fiber with minimal energy inputs and no toxic outputs-unlike the energy-intensive, highly toxic process of producing Kevlar. A single yard of Kevlar fabric has a current market value of \$34.95. The production of artificial spider silk could be revolutionary in the field of textiles. The orb spider resides in temperate forests of the southeastern United States, but the potential for similar information value resides within the species diversity of our own Lake Whatcom watershed. As the field of biomimicry expands, reserves of genetic diversity will become increasingly important as we develop new technology to deal with the problems we continue to face as a society.

Refraining from timber harvesting may decrease the monetary value directly acquired by DNR from management of those lands, but it will undoubtedly increase the recreational and aesthetic value associated with their use. Public enjoyment derived from hiking, mountain biking, mushroom and berry picking, and bird watching may be directly correlated with the biodiversity of the watershed. The fact that these activities aren't directly related to increases in revenue for DNR does not undermine the extent to which their value should be considered when developing a watershed management plan. Determining management priorities from a financial analysis perspective ignores the reality of this unmonetized recreational or aesthetic value. It's simply not possible to

quantify the value derived from the sour burst of flavor as you tease your taste buds with wild huckleberries, the earthy scent of decomposing fungi after a light rain, or the sound of actively displaced air as a hawk peruses your presence from the canopy above. The unique species diversity of the Lake Whatcom watershed includes, but is certainly not limited to, the following species: northern goshawk, pileated woodpecker, bald eagle, matsutake, chanterelle, red huckleberry, wild blackberry, and salmonberry. Many more

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species, as well as the sheer diversity of species, enhance the value of hiking through the forests, exploring their fringes from a kayak, or simply viewing the aesthetic beauty of the ecosystem as a whole from an ideal location.

Perhaps even more un-quantifiable than aesthetic value is that of religious and spiritual value. During my first three years as a student at Western Washington University, I rowed the waters of Lake Whatcom nearly every morning as a member of WWU Women's Crew. I trailed the bow of our boat as it sliced through thick layers of fog tinted silver by the moonlight. I breathed deeply the chilled air that danced with the aurora borealis over Stewart Mountain. I watched the ripples from my oar travel across metallic-tinted waters as the early morning light began to reach up and over the foothills. I experienced the profound connection between the sacred and the profane that I've found only in nature. The extent of this spiritual value lies largely in the experience itself, but the fact that my experience was nested within the Lake Whatcom watershed lends a unique aspect to this value. It's impossible to compare the spiritual value of my experience on Lake Whatcom to a similar experience in a different environment, but I can say with certainty that the diverse ecosystem of this area created an opportunity for spiritual enlightenment that might not have been possible elsewhere. The spiritual value that I personally derive from the biological diversity of the Lake Whatcom watershed is only a small fraction of the total spiritual value, both acknowledged and unacknowledged, to the people of this area.

Going beyond all quantifiable and unquantifiable values expressed thus far leads to the nature of intrinsic value. The biological diversity of the Lake Whatcom watershed is inherently valuable in and of itself regardless of any anthropocentric or human-derived value. Even the banana slug, which just might make its way from the forest and into your garden, has an intrinsic value associated with its existence. If for no other reason than the fact that it exists, biodiversity is a valuable component within our watershed that deserves acknowledgement and protection.

As a concerned individual aware of the extensive value found within the biological diversity of the Lake Whatcom watershed, I urge you within DNR to consider all values in developing a Landscape Plan. Please be conscious of the fact that prior management priorities may favor uses of the watershed that will lead to the detriment of the watershed as a whole. It's important that the politics of today don't take precedence over the long-term goals of our future. In light of the value within biological diversity, I would like to offer my support for a forest restoration approach to watershed management that shifts the focus from the generation of revenue to the generation of additional values such as those mentioned above. Thank you for considering my input i
n your decision-making process.

Sincerely,

Kerri Cook

Student, Western Washington University

EM7

From: Gene Knutson <Gene.Knutson@bellcold.com>
To: "'sepacenter@wadnr.gov'" <sepacenter@wadnr.gov>
Date: 10/23/02 8:04AM
Subject: Logging in Watershed

To Whom it may concern:

I am sending these comments about the Lake Whatcom PDEIS. On behalf of the people i serve i am in favor of Alternative #5. No clearcutting in our watershed. Please, this lake is the only body of water that we can count on for clean water for our children and grandchildren. I serve over 81,000 people here in Bellingham and they are saying loud & clear"NO CLEAR CUTTING IN OUR WATERSHED!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

you,	Thank
Knutson	Gene
Bellingham City Council	
Ward	2nd

EM8

Richard Whitmore
Forester
4214 Van Horn Lane
Bellingham, WA. 98226

DNR SEPA Center, Lake Whatcom PDEIS File No. 02-091300
P.C. Box 4-7015
Olympia, WA. 98504-7015

October 25, 2002

Re: Lake Whatcom Preliminary Draft Environmental Impact Statement, Comments.

Dear Mr. Wallace,

First I would like to express my dismay that the timber industry has been locked out of this process until now. This gives us very little ability to impact the alternatives that have been presented to the public. If we were invited to the table at the beginning of this process the alternatives may have looked much different and would include more realistic and innovative ideas. The absence of our industry was intentional and uncalled for. This obvious exclusion unduly biased this PDEIS to a preservation slant that ignores science and best management practices. The make up of this committee (although they worked very hard and honestly) gives these alternatives an almost Disneyland approach to managing our state trust lands.

As usual there is a push to preserve all of our state trust lands. The cut no trees crowd has hijacked this process. Science has been thrown out the window for unfounded emotionalism and political gain. This is proven by the way the knee jerk reaction law was passed to force us to go through this process after the DNR spent many years in time and money studying the land around the lake to sensitively manage their trust lands. That's what we pay them for. Why are the politicians getting in the way of the DNR's process? According to the Department of ecology and Health option #1 is good enough to protect the health of the lake. Why go any further?

The preservationists seem to think that a mature old growth forest is the only way the watershed should be managed. Is this the best way to manage a watershed for quality and quantity? I think not.

Studies done by the University of Washington in the Seattle watershed have shown that a managed stand provides more water for a longer period of time because water is let through the tree canopy so it can enter the ground and eventually seep into the streams that feed the reservoir. A mature closed canopy as is proposed by elements of Earth first at a public meeting held on October 15th is not the ideal condition for a watershed according to University of Washington's in-depth study.

The mature closed canopy that will result in almost all the alternatives would be detrimental to the watershed and to the diversity of wildlife. Anyone who has walked through a mature forest with a hydrologically mature canopy knows that the forest floor becomes a desert when sunlight and moisture are excluded. Studies have shown that a forest that is managed as it would be under alternative #1 has the most diversity of wildlife because of the diversity of the stand. There will be enough mature stands in the riparian zones and on the unstable slope.

The major concern of the law that has driven this PDEIS is protection of the lake. According to the state department of health and the department of ecology forest practices as managed under the forest and fish rules and the department of natural resources watershed analysis. So why should we do any more than what is required under alternative #1?

I feel that the unstable area mapped in alternatives 2 through 5 are over exaggerated. These areas need to be ground proven before they are put on the map once they are published they never change. They may be added to but not reduced. History has proven that. This is not science but political gerrymandering. Not all unstable slopes should be off limits. Sometimes different road building or harvesting techniques will alleviate the problem. The plan should be flexible so the experts on the ground can make the decisions on

how best to manage the land. Black and white rules such as exist in alternatives 2 through 5 are archaic and detrimental to the watershed.

We are having infestations in some of our national forest lands at epidemic proportions because their rules do not allow them to manage their land. This could happen in this watershed. The hemlock looper is now devouring oldgrowth and young growth trees around Baker Lake. Salvaging the infected trees and harmless sprays can be used to control the looper. Instead the looper is now spreading into private commercial forestlands. Another pest in this area is the Douglas fir bark beetle. This beetle has been known to wipe out thousands of acres of trees in Whatcom County. The control for this is to remove the infected trees. Under options 2 through 5 this may not be possible. Also these trees are wasted when not used harvested and creating wealth for the community. Some preservationists say the forest needs these trees for woody debris, I agree but how much? Certainly we don't need it all on the forest floor.

In today's economic climate it seems reasonable that we need to support all the viable industries in our state. The timber industry has played an important part in the positive growth of our state. Because of land lock ups the industry has shrunk drastically. Now that Boeing and Microsoft are doing poorly our state is doing poorly. We need the diversity of industry in our state for our economic health. This may be just 15,000+- acres but the all adds up when you look at all the timberland set aside in this state. We should research the accumulative effects of all these small so-called insignificant land set asides and their impact not only on the timber industry, but the economy of the state as a whole and the ecology. The rural way of life is being wiped out by the no logging approach to our natural resources what is the social impact of this rural genocide?

Today we live in a world community. We must think of the impacts we have on the world when we make decisions right here in the Lake Whatcom watershed. An old adage "THINK GLOBALLY ACT LOCALLY" Works well here. If we tie up all of our forest lands into no management or no cut. Where will the wood come from to build houses and make paper? The state of Washington probably has the toughest forest practice laws in the world by making our timber off limits we are asking countries that have little or no forest practice rule to cut their forest down to meet the world demand for wood fiber.

Aggressive forest management can be used as a tool to increase water quality and quantity, It also can be used to improve habitat for most all of our forest plants and animals. Including all the endangered species. Most people who object to forest practices have not a clue of the laws or rules and process the timber industry goes through to cut a tree. This has created hysteria driven by less than true explanations of what is happening out in the forest from preservation groups that live off the hysteria they create. The public should be heard in these reports, but science should support the decisions. Alternative #1 goes beyond what is necessary according to science. Why go any further? To go any further than alternative #1 real proof of the advantages should be proven, using real scientific method with real peer review.

This decision has bigger impacts than this watershed. This decision could be extended to other watersheds and to private forestlands. I have heard this mentioned many times in different meetings. This possibility should be explored in the DEIS because it is a direct impact of this action.

Thank You for this chance to respond.

Richard Whitmore



Working Together for Lake Whatcom

EM9

Mark Asmundson, Mayor
City of Bellingham
210 Lottie Street
Bellingham, WA 98225
(360) 676-6979

Pete Kremen, Executive
Whatcom County
County Courthouse
Bellingham, WA 98225
(360) 676-6717

Deborah Lambert, Commissioner
Whatcom County Water District #10
1010 Lakeview Street
Bellingham, WA 98226
(360) 734-9224

MEMORANDUM

TO: SEPA Center
Washington State Department of Natural Resources
FROM: Lake Whatcom Management Committee
DATE: October 25, 2002
RE: Comments on the Lake Whatcom PDEIS

The City of Bellingham, Whatcom County and Whatcom County Water District #10 (WD# 10) have formally agreed to work together in the management of their jurisdictional interests in the Lake Whatcom Watershed. The Lake Whatcom Management Committee (LWMC) is the decision-making entity for that cooperative effort. Staff and the Forestry Forum (a committee empowered by the LWMC) have reviewed the Lake Whatcom Preliminary Draft EIS of September 13, 2002. The following comments are based on that review.

The primary concern of the LWMC is protection of the Lake's water quality especially as that pertains to the municipal water supply of Bellingham and WD #10. In consideration of that focus, the LWMC requests that the Draft EIS include a comparison of the water quality impacts of each alternative, not only the sediment load contributions but also the effects of chemical application. In addition, other activities with water quality impacts identified during the development of alternatives should be included in the comparison.

This comparison should be presented in the form of a benefit/cost analysis of each alternative's impact on water quality. The benefit/cost analysis should take into account additional costs for maintaining the drinking water supply, including but not necessarily limited to costs associated with treatment at the water treatment plant. The LWMC feels that this analysis will aid them in recommending a preferred alternative for consideration in the EIS.

The LWMC is primarily responsible for maintaining Lake Whatcom as a safe water supply. However, the LWMC recognizes the importance of commercial forestry to the local economy. Further, it supports the industry's efforts to be viable while continuing practices that protect the environment and water quality. To this end, the LWMC is looking for an alternative that achieves both viable forestry and water quality protection.

c **Committee Members**
Ward Nelson, Whatcom County Council
John Watts, Bellingham City Council

EM10

From: <Barbwavada@cs.com>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: 10/25/02 6:07AM
Subject: Lake Whatcom PDEIS

Dear Sir or Madame,
My name is Barbara Wavada and I live in Sudden Valley just outside of Bellingham, WA.

I have tried to familiarize myself with the function of the DNR and understand that it is necessary to utilize our state lands in a way that is both profitable to the state and local governments and safe for the citizens and businesses that are in the areas that are affected by the DNR's decisions.

Like everyone else in the Lake Whatcom Watershed, I am very concerned about any potential danger to our source of drinking water and am writing to ask the DNR to please strongly consider the use of Alternative 5 when making their decisions concerning the landscape plan for this area.

Thank you.

Barbara Wavada

(511)

From: <PFinet@cob.org>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: 10/25/02 12:51PM
Subject: Comments on the Lake Whatcom Preliminary Draft Environmental ImpactStatement

I have been asked by the Lake Whatcom Management Committee to forward their comments to you via e-mail, to ensure that the deadline of October 28, 2002 is met. In addition, I will put a hard copy in the mail today. If you have any trouble opening or retrieving the attached document, please let me know.

(See attached file: DNR Comments Landscape Plan.doc)

Sincerely,

Phyllis Finet
Environmental Resources Assistant
City of Bellingham
210 Lottie Street
Bellingham, WA 98225
(360) 676-6961, ext. 379
Tues., Wed., Thurs., Fri. 9:30 - 2:30

CC:

WADNR.SMTP("jwatts@edoras.nas.com", "lordward@aol.com", "JLWalker@cob.org", "fkincaid@co.whatcom.wa.us", "estroebe@co.whatcom.wa.us", "CFogelsong@cob.org", . . .

EM 12

From: Tom Pratum <water@northcascadesaudubon.org>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Sun, Oct 27, 2002 9:45 PM
Subject: Lake Whatcom PDEIS

Please accept the attached comments (Adobe Acrobat pdf file) regarding the Lake Whatcom PDEIS on behalf of the Conservation Committee of North Cascades Audubon Society.

Note that I have also sent my own comments under a separate email message.

Thank you for your consideration.

Tom Pratum
North Cascades Audubon Society

EM12

From: Tom Pratum <tkpratum@romarr.com>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Sun, Oct 27, 2002 8:36 PM
Subject: Lake Whatcom PDEIS

October 27, 2002

This comment regards the Lake Whatcom PDEIS which was published September 13, 2002. There are a couple of critical aspects which have not been explored by this document:

1. Lake Whatcom is an essential drinking water resource for the region, and therefore this watershed should not be treated as other watersheds might be. I feel that it must be handled much more gently. A letter from the Department of Health certifying that current trust land forest practices will not harm water quality is certainly not sufficient.
2. The role of this area in the North Cascades Corridor, which stretches from Blanchard Mountain on the West to the Twin Sisters on the east, is totally ignored. This east-west link makes this region even more important for wildlife habitat than the presentation in the PDEIS.

In evaluating the management options, option 2, while restricting harmful activities more than standard trust land forest practices, does little more than what can be expected from the removal of some potential road activities. The rotation age and other harvest practices are not changed. I feel that this is insufficient and therefore recommend that options 3 or 4 be adopted. These have the additional benefit of helping to preserve cultural resources.

Thank you for this opportunity to comment.

Tom Pratum
2241 North Shore Road
Bellingham, WA 98226-9416



North Cascades Audubon Society

www.northcascadesaudubon.org PO Box 5805 Bellingham, WA 98227 info@northcascadesaudubon.org

October 28, 2002

Board Members:

William J. Wallace
Department of Natural Resources
Northwest Region Manager

Debbie Craig
President

Sedro Woolley, WA 98284

Dave Schmalz
Vice President

Re: Comments on the Lake Whatcom Preliminary Draft Environmental Impact Statement (PDEIS) –

Jodi Broughton
Secretary

Dear Mr. Wallace:

Michele Bodtke
Treasurer

North Cascades Audubon Society (NCAS) promotes the study and conservation of birds and other wildlife, and works to increase public appreciation for the value of wildlife, plants and the natural environment in order to preserve and protect them. Below please find our comments on the PDEIS document that will eventually lead to selection of a preferred alternative for management of nearly 15,000 acres of state forests around Lake Whatcom. These ecologically significant state forests benefit birds in a number of ways, and are important to the members of North Cascades Audubon Society.

Jeanie Johnson

Many of the scoping comments submitted by NCAS have been referenced in the PDEIS document and NCAS appreciates the efforts of its authors. Following cursory review of the PDEIS document, NCAS has chosen to comment at this time on the following 11 issues:

Joe Meche

Sally Hewitt

- I. Preservation of Cultural Resources
- II. Current and Potential Future Marbled Murrelet Habitat in the Planning Area
- III. Current and Potential Future Bird Habitat in the Planning Area
- IV. Retention of Trees in Logging Units
- V. Rotation Ages for Lands Available for Logging
- VI. Protection for Wetlands of All Sizes
- VII. Preservation of Riparian Forests Along All Streams
- VIII. Maintaining Forest Hydrologic Regimes
- IX. Unstable Slopes
- X. Roadless Areas in the Planning Area
- Chuckanut to Cascades Forest Corridor

Tom Pratum

Larry Williams

Steve Irving

Dian McClurg

I. Preservation of Cultural Resources

NCAS supports the continued use of the planning area by Native American peoples and supports the Cultural Resource provisions outlined in Objectives 9 and 10 of Alternatives 3-5.

II. Current and Potential Future Marbled Murrelet Habitat in the Planning Area

As a relatively intact block of forestland in close proximity to saltwater, state lands around Lake Whatcom

This subject is not adequately explored in the PDEIS document. On Page 133 of the PDEIS, the authors

change in management approach or in the status of murrelets in the planning area.” The presumption that future consultations with DNR region, tribal and WDFW biologists, as required in Alternatives 3-5, will not

Further, the surveys in Alternatives 3-5 are designed to identify potential suitable habitat, not occupied stands. NCAS supports the preservation of potential suitable marbled murrelet habitat in the planning area, as well as stands with the potential to become suitable habitat in the near-term.

III. Current and Potential Future Bird Habitat in the Planning Area

Along with the marbled murrelet, other bird species of concern are identified in the PDEIS. Most notably, the planning area was likely occupied by bird species such as the Northern Goshawk, Vaux’s Swift, and the

wetlands (Appendix J, Page J-23). NCAS supports protection of all existing suitable habitat for these protection provided in Alternatives 3-5.

Average tree retention inside a logging unit should be no less than the 25%, as described in Alternative 3. This is consistent with the minimum retention levels suggested for Forest Stewardship Council (FSC) certification by the Scientific Certification Systems (SCS) audit of DNR state land management in Western Washington (SCS, 2001). On Page 229 of the PDEIS, a question is raised as to which trees would be retained in this alternative. NCAS supports the retention first of dominant, then co-dominant trees, snags and downed logs in order to best maintain and enhance the forms and functions of older forest ecosystems.

V. Rotation Ages for Lands Available for Logging

The 60-year rotation age in Alternative 2 does not allow for the development of mature forest conditions. Although some locations within the planning area will not be available for logging (and will therefore

forests are an extremely under-represented forest type in the planning area, and the PDEIS states that adjacent non-state lands, forested or otherwise, are unlikely to develop old forest characteristics and habitats. NCAS supports rotation ages between 120-200 years for conifer forests in the planning area.

VI. Protection for Wetlands of All Sizes

The PDEIS describes wetlands as “some of the most important fish and wildlife habitat in forestlands” where primary productivity rates “are among the highest in the world” (Page 109). Further benefits of wetlands include “sediment trapping, water purification, stormwater detention and seasonal streamflow augmentation” (Page 109). Given the ecological and hydrologic value of wetlands, and the seasonal low flow conditions in many of the tributaries, NCAS supports protection of all wetlands in the planning area commensurate with that provided in Alternatives 3-5 (with respect to roads and timber harvest).

VII. Preservation of Riparian Forests Along All Streams

Riparian forests play a large role in regulating environmental conditions along streams. For example, Large Woody Debris (LWD) is an important feature for all riparian areas. One benefit of LWD, especially in headwater streams, is the storage and regulation of sediment movement (Page 120). LWD also moderates

supports strategies for streams and riparian areas that protect riparian forests along all streams commensurate with the protections provided in Alternatives 3-5. These measures are consistent with the

in Washington’s forest environment (Washington Environmental Council & National Audubon Society (1999)).

VIII. Maintaining Forest Hydrologic Regimes

Pre-settlement conditions in the planning area likely included mature forests across much of the landscape. These mature forests helped regulate the release of water through the watershed. Conversion of older forests to early seral stages has altered the hydrologic regimes in many sub-basins in the planning area. To return the forest hydrologic regime to within the range of natural variability for each sub-basin, NCAS supports, at minimum, the retention of older forests as outlined in Alternatives 3.

IX. Unstable Slopes

NCAS supports the prohibition of new road construction and timber harvest on unstable slopes described in Alternative 2. NCAS further supports very limited to no management on potentially unstable slopes to ensure no significant risk to public resources and safety (as described in Objective 1 of the PDEIS). NCAS supports leaving edge buffers adjacent to unstable slopes to protect these slopes, and the trees that are growing on them, from the effects of severe winds.

X. Roadless Areas in the Planning Area

The PDEIS recognizes roadless areas in the planning area to be of particular significance to wildlife, and identifies their geographic locations. NCAS supports preservation of these areas as roadless. Any removal of trees within these roadless areas should be done without the construction of new roads.

XI. Chuckanuts to Cascades Forest Corridor

saltwater of Puget Sound. To the west of Lake Whatcom is the forested Chuckanut Mountain range which descends to saltwater. To the east, the Van Zandt Dike and the Middle Fork Nooksack River provide a forested corridor from saltwater to the Cascades. While the PDEIS document discusses the relative isolation of forests in the planning area due to proximity to I-5 and the city of Bellingham, it does not emphasize the importance of the forests in the planning area to the east-west link. NCAS supports conservation of the unique forested corridor that stretches from Puget Sound to the Cascades and includes the forests of the planning area.

Thank you for considering these comments as the Lake Whatcom DNR Landscape Planning Committee and DNR select a preferred alternative for the Lake Whatcom DEIS.

Please feel free to contact me with any questions or comments.

Sincerely,

Tom Pratum,
Conservation Committee,
North Cascades Audubon Society

References Cited:

Scientific Certification Systems Report on Forest Stewardship Council Certification for WA State Forestlands (2001). Available from WA DNR.

Washington Environmental Council/National Audubon Society (1999) Low Risk Proposal to the WA Forest Practices Board for Rules to Restore Salmon Habitat in Washington's Forested Streams. Seattle, WA.

EM14

From: <Votetrees@aol.com>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Mon, Oct 28, 2002 9:49 AM
Subject: Comments on PDEIS (Lake Whatcom Landscape Committee)

October 28, 2002

Comments on PDEIS for Lake Whatcom (as per Lake Whatcom Landscape Committee process)
 Submitted by Sherilyn Wells, both individually and as a representative of the Clean Water Alliance

1. Regrettably, DNR continues to use a form of martial arts known as "aikido" as its strategy in writing this PDEIS and responding to issues raised by the scoping process.

That is, DNR simply moves aside whenever a pointed comment is directed at the agency or its workproducts (such as this PDEIS), rather than addressing the issue head on (a.k.a. DNR IGNORES AND AVOIDS many serious issues).
 In this case, "pointed comment" refers to issues that would necessarily mean DNR would HAVE to revise its opinion about how wonderful its current practices around Lake Whatcom are, were it to actually add these additional concerns into its SEPA documentation.

The missing issues to which I refer are catalogued below, in comments submitted by myself and by Tim Paxton. WDFW's list of deficiencies is also herein cited and incorporated by reference.
 This tactic on DNR's part certainly creates "workload reduction" for the citizen reviewer, in that DNR's avoidance strategy saves the citizen from having to write new, lengthy critiques, because so many of our original criticisms still apply.

Thus, to conclude, this PDEIS is distinguished as much by what is NOT discussed as by what is said. Clearly, DNR is afraid of the report it would have to write if it included a discussion of the missing issues.

2. SEPA legislation has specific language about not using the analysis process to support a preselected choice (in other words, don't use this process to rubberstamp a position you've already decided upon). DNR is clearly violating that SEPA premise already, by virtue of its constant reference to the alternative IT prefers (and its general conduct throughout this entire process).

The legislature would not have written the law to contain such an admonition had it not anticipated (and/or seen) that the SEPA analytical process was being or would be abused and manipulated in that fashion. Thus, this PDEIS violates both the spirit and the letter of the law.

3. It is worth mentioning now, although it seemed futile at the time (DNR having decided that it was prepared, apparently, to go to whatever lengths were necessary to hijack the LW Committee process), that there was inaccurate legal analysis in the January 18, 2002, letter from the Attorney General's Office to State Representative Dave Quall, explaining the responsibilities and roles of the committee and DNR.

(a) Deference to "agency expertise" is accorded when the topic under review is the special purview of that agency. There is caselaw that SPECIFICALLY indicates that interpretation of the language of legislation/legislative intent is NOT such a "special area." In fact, the courts would be surprised to hear that their function has been thus usurped.

(b) The record of the legislative debate/discussion on the legislation that established the Lake Whatcom Landscape Committee process clearly indicates that the legislature intended the committee to be a full partner, not "merely" an advisor to DNR, in that process (see my 10/01/01 comments below, herein resubmitted as part of this PDEIS process). Legislative history is one of the cornerstones of legislative interpretation and was, to a significant degree, either ignored or reviewed and quoted extremely selectively, when DNR's A.G. issued the opinion about DNR's role.

3. The mercury issues in Lake Whatcom are still absent from DNR's analysis, despite REPEATED attempts by both citizens AND WDFW to draw DNR's attention to this problem (and the research that indicates a connection can exist between logging/soil disturbance and the release of mercury).

EM14

Please note that the original analytical documents re mercury in Lake Whatcom, issued by DOE and by WDFW, used mercury standards which were in the process of being revised. Had the new mercury standards been applied to the data, standards which have subsequently come into effect, the problems in Lake Whatcom could and would have been described in far more serious terms.

I hope that, when DNR issues its DEIS, it will take this entire process much more seriously and actually do the job anticipated by the legislature when our representatives created special committees for this special resource, Lake Whatcom.

That job is: forging a REAL partnership with the other stakeholders and conducting an HONEST assessment of impacts, with no hidden agenda to promote, so that the REAL "best choice" can be made with assurance that manipulation and obstruction were absent from the process.

Sincerely,
Sherilyn Wells

Appended below as additional comments on the PDEIS:
10/01/01 comments by Sherilyn Wells on Scoping Process
1/30/02 comments by Tim Paxton

Comments on Lake Whatcom Scoping for EIS submitted by:

Sherilyn Wells, both individually and as a board member of the Clean Water Alliance
1020 Geneva St.
Bellingham, Wa 98226

10/01/01

(1) This process is illegal. DNR has hijacked control of the process outlined in ESSSB 6731, in which development of the plan was to be a mutual responsibility of the DNR and the interjurisdictional committee. This process is proceeding solely at the behest of DNR, in what was a "surprise move," and caught the other members of the committee (and participating public) completely off guard. It raises questions as to what DNR's real agenda and motives are. Is DNR participating "in good faith" or not?

(2) The only time ESSSB 6731 mentions "recommendations" from the committee to DNR is in reference to site-specific activities. The committee is NOT advisory where development of the Plan is concerned - it is a full partner in that process. DNR is not allowing the committee to have its fair share of the control over this process.

(3) The DNR is putting the cart before the horse in assuming an EIS will even need to be done at all. The purpose of an EIS is to analyze probable SIGNIFICANT environmental impacts. The purpose of the committee is to develop a plan that minimizes effects on Lake Whatcom from forestry-related activities. If a/the lead agent waited until the Plan was completed and then performed a threshold determination, the lead agent might find that the comprehensive set of strategies in the plan adequately mitigated the effects of future forestry practices, resulting in a DNS or mitigated DNS.

(4) By proceeding before the plan has been fully developed, ergo available for analysis, the DNR is committing the state to expenditures which may be completely unnecessary in a time of extreme budgetary constraints.

(5) I am not aware of any formal threshold decision - DS - which, under SEPA, is a necessary precursor to an EIS. Thus, this process is procedurally flawed in this way as well.

(6) The most proficient analysis of a plan can only be done comprehensively. By proceeding before a complete plan has been developed, DNR is not analyzing the plan as a unit, in which some elements might address concerns in other areas.

EM14

(7) By proceeding prematurely, DNR cannot know that it will address all policies and strategies which may become a part of the plan, perhaps necessitating a supplemental EIS (SEIS) when the plan is completed. This could extend both the time and expenditures for this process. This would not be necessary if DNR would simply await completion of the plan.

(8) If this process goes forward anyway, I join in the recommendations submitted by Tim Paxton and by the Department of Fish and Wildlife.

(9) If this process goes forward anyway, the impacts of forestry management need to be considered IN CONTEXT in order to be relevant. The impact of the other activities in the watershed must be the baseline/background against which DNR's future impacts are considered. For instance, the contamination of the lake with urban toxics (many of which are carcinogens or endocrine disruptors) is a serious issue, both for human health and for fish and wildlife. The problems with synergistic and additive effects of combinations of chemicals must be evaluated. In addition, the effect of physical impacts on chemicals must be analyzed, e.g., whether certain forest management activities create conditions in the lake that amplify the effects of these contaminants (e.g., increase hypolimnetic low oxygen problems, which increases the release of metals and chemicals from the sediments).

(10) At www.lakewhatcom.org, there is a Declaration re the state of the lake by Dr. Marc Lappe. Dr. Lappe is the expert in the Woburn, Massachusetts, case described in the book A CIVIL ACTION. I append by reference Dr. Lappe's comments and recommendations re the fragile status of this reservoir.

(11) There is, at present, no long-term understanding of the lake's natural background levels, without the flushing influence of the diversion. Even though the diversion has been severely reduced recently, the lake flushes more slowly than any other water body in the state of Washington, therefore inadequate time has passed to determine what the true "natural" state of the lake is. Since the ESA may require the diversion to be eliminated, modelling of the lake without the diversion is an absolute necessity.

(12) The federal "Molloy" (Montana) decision re TMDLs, which requires a TMDL process to be conducted on a 303(d)-listed waterbody before any additional permits and damaging activities may proceed, should be the standard honored by DNR. There is no determination at present of what it will take to restore the lake to conditions that meet Clean Water Act standards. DNR must consider the results of that study as part of its environmental analysis.

Comments by Tim Paxton of the Clean Water Alliance:

1/30/2002

Mr. Wallace,

1. Attached is a letter from WDFW that shows scientific studies that logging increases mercury in lakes. DNR now SPECIFICALLY refuses to address this issue. Can you explain that? There is no mention of these studies in your EIS scoping document.

2. Also, in my oral comments I requested that economic information on the value of the water to the city be included rather than just value of timber. I do not find any mention of this comment.

3. Where is the mention of DNR's plan to use BMP's ?

4. DNR still has not said that they will accept the recommendations of the Landscape Committee? Is this DNR Policy?

5. Where is DNR's AGO opinion that this EIS process is even legal? Where is the Determination of

EM19

Significance before the Landscape plan is even done? Can you publish a link to that opinion?

As I read through this document, it is clear the DNR is planning on ignoring most of the comments or concerns and proceeding along its own way to clear cut this important watershed.

It is becoming very clear that DNR should listen to comments such as the one made by Representative Kelli Linville that DNR should not do its own EIS.

I look forward to your written reply to the above questions.

Attached below again are my original comments for inclusion in this document.

Sincerely,
Tim Paxton

As far as the scoping for this planned EIS:

I am requesting that the EIS for the Lake Whatcom Landscape plan include;

1. Option of NO Harvest until fish populations restored to historical levels prior to logging.
2. Inclusion of BMP's (Best Management Practices) from Washington Fish and Wildlife sources including a 1997 document with 1500 references to habitat and stream buffers. I.e. use science to drive the logging buffers.
3. Peer Review of EIS from other agencies.
4. Independent authoring of EIS outside of DNR to instill public confidence in the results.
5. Halt all earth disturbing activities until sources of mercury found in watershed and removed.
6. Include all recommendations of the 2001 Landscape Committee into the EIS
7. Account for economic cost to Whatcom County for destruction of water quality and/or fishing tourism
8. Include past recommendations of landscape committees
9. Retire all existing abandoned logging roads.
10. Wait until lake is removed from 303d list before any logging activity allowed
11. Wait on all activity until State Department of Ecology is done with its current TMDL study before proceeding on any earth disturbances within the watershed.
12. Provide bonding to indemnify the City of Bellingham's cost to immediately replace or treat the clean water supply provided by the watershed if DNR actions cause severe drinking water pollution.
13. Follow the Washington State laws regarding non-pollution of State Waters for turbidity, sedimentation, phosphorus and dissolved oxygen within the watershed boundaries.
14. Improve water quality in the tributaries.

CC:

BTH

WADNR.SMTP("spanel_ha@leg.wa.gov","quall_da@leg.wa.gov","morris_je@leg.wa.gov",
v","linville_ke@leg.wa.gov","gardner_ge@leg.wa.gov", ...

From: Tim Paxton / Synthesis Company <Tim@synthesiscompany.com>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Mon, Oct 28, 2002 10:15 AM
Subject: File No. 02-091300 Lake Whatcom PDEIS Sepa Comments

SEPA Comments for PDEIS Lake Whatcom

Dear SEPA Official,

I am writing on behalf of myself and the Bellingham Clean Water Alliance.

These are comments which I previously submitted and were not addressed adequately or included in this PDEIS, I believe.

1. Previously I attached a letter from WDFW that shows scientific studies that logging increases mercury in lakes. DNR now SPECIFICALLY refuses to address this issue. Can you explain that? There is no mention of these studies in your EIS scoping document or the PDEIS document.
2. Also, in my oral comments I requested that economic information on the value of the water to the city be included rather than just value of timber. I do not find any mention of this comment.
3. Where is the mention of DNR's plan to use BMP's ? (Best Management Practices.)
4. DNR still has not said that they will accept the recommendations of the Landscape Committee? Is this DNR Policy?
5. Where is DNR's AGO opinion that this EIS process is even legal? Where is the DS, Determination of Significance before the Landscape plan is even done? Can you publish a link to that opinion?

As I read through this document, it is clear the DNR is planning on ignoring most of the comments or concerns and proceeding along its own way to clearcut this important watershed.

It is becoming very clear that DNR should listen to comments such as the one made by Representative Kelli Linville that DNR should not be allowed to do its own EIS.

As far as the scoping for this planned EIS:

I am requesting that the EIS for the Lake Whatcom Landscape plan include;

1. Option of NO Harvest UNTIL fish populations restored to historical levels prior to logging.
2. Inclusion of BMP's (Best Management Practices) from Washington Fish and Wildlife sources including a 1997 document with 1500 references to habitat and stream buffers. I.e. use science to drive the logging buffers.
3. Peer Review of EIS from other agencies.
4. Independent authoring of EIS outside of DNR to instill public confidence in the results.
5. Halt all earth disturbing activities until sources of mercury found in watershed and removed. DNR refuses to address this serious public health matter and will of course decry any responsibility for increase in mercury into the reservoir.
6. Include all recommendations of the 2001 Landscape Committee into the EIS

7. Account for economic cost to Whatcom County for destruction of water quality and/or fishing tourism
8. Include past recommendations of landscape committees.
9. DNR should retire all existing abandoned logging roads.
10. Wait until lake is removed from 303d list before any logging activity allowed
11. Wait on all activity until State Department of Ecology is done with its current TMDL study before proceeding on any earth disturbances within the watershed.
12. Provide bonding to indemnify the City of Bellingham's cost to immediately replace or treat the clean water supply provided by the watershed if DNR actions cause severe drinking water pollution.
13. Follow the Washington State laws regarding non-pollution of State Waters for turbidity, sedimentation, phosphorus and dissolved oxygen within the watershed boundaries.
14. Protect and Improve water quality in the already damaged lake tributaries.

Thank you.

Tim Paxton
2120 Ellis St.
Bellingham, WA 98225

From: Lisa McShane <lmcshane@ecosystem.org>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Mon, Oct 28, 2002 4:42 PM
Subject: Lake Whatcom PDEIS

Attn: SEPA Center

Please acknowledge receipt of this email.

Please find attached, and pasted below, 6 documents which comprise comments to the Lake Whatcom PDEIS from Northwest Ecosystem Alliance. If you have any problems opening any of them, please let me know.

Thanks,
Lisa McShane

Please open the 2 additional documents:
<file:///C:/EUDORA/Attach/LWAC-report.pdf>8a1855.jpg<file:///C:/EUDORA/Attach/LWAC-report.pdf> LWAC-report.pdf

http://www.leg.wa.gov/pub/billinfo/1999-00/senate/6725-6749/6731-s2_sl_03302000.txt

William Wallace
Northwest Regional Manager
SEPA Center, Lake Whatcom PDEIS
1111 Washington ST SE
PO Box 4-7015
Olympia WA 98504-7015

October 28, 2002

Dear Mr. Wallace,

Thank you for this opportunity to comment on the Lake Whatcom Preliminary Draft Environmental Impact Statement. Comments from Northwest Ecosystem Alliance are attached, as well as the following documents:

Comments from Dr. Dave Montgomery on the PDEIS
ESSB 6731

Chart of revenues from future logging in the planning area
1999 Lake Whatcom DNR Committee Recommendations

Together, these five documents comprise our comments on DNR's Lake Whatcom PDEIS.

Sincerely,

Lisa McShane
Director of Community Relations

Northwest Ecosystem Alliance - Lake Whatcom Landscape Plan PDEIS

October 28, 2002

To: William Wallace
DNR Northwest Regional Manager
SEPA Center
Washington State Department of Natural Resources
1111 Washington Street SE
MS: 47003
Olympia, WA 98504-7003

October 28, 2002

Dear Mr. Wallace,

On behalf of Northwest Ecosystem Alliance and our 8,000 members, 520 of whom live in Whatcom and Skagit Counties, I write to provide scoping comments on the Department of Natural Resources' Lake Whatcom Landscape Plan Preliminary Draft Environmental Impact Statement (PDEIS). I appreciate this opportunity to provide comments, and thank you for providing citizens with an extended scoping process on this important plan.

We submit these comments today, however, we respectfully request that we be allowed to replace the comments with a larger, comprehensive set of comments no later than November 11, 2002. A detailed review by a limnologist and a forest ecologist shall be included with the second set of comments. We will ask that you remove and replace this set at that time.

I. Summary

The DNR has a responsibility and a mandate from the legislature to protect drinking water in the Lake Whatcom watershed and to protect the neighborhoods adjacent to DNR lands from landslides and debris torrents caused by logging practices. Our review of the alternatives presented indicates that the only alternatives that achieve this directive are Alternative 4 and Alternative 5. Despite statements to the contrary in the PDEIS, Alternatives 1, 2, and 3 are non-viable because they do not meet the legislative directive. Assertions to the contrary are not well supported by scientific information and contradict well-established scientific literature. Draft environmental review documents should carefully examine current scientific record and present the scientific basis for assertions presented in the documents.

The Lake Whatcom Landscape Plan is of the highest importance. It directs management activities across 15,657 acres of public lands in a sensitive watershed. These trust lands are owned by the people of the state of Washington and "held in trust for all the people¹" by the Department of Natural Resources. These lands have a broad public trust benefit: they provide clean drinking water for half of Whatcom County. They also pose a significant potential

¹ Washington State Constitution, 1989, Article XVI

threat: thousands of families live in the homes below the steep slopes and in the recent past landslides, triggered by logging on DNR lands, put houses, cars, a person, and some 65 acres of logging debris into Lake Whatcom. Citizens, with the strong support of legislators and local elected officials, have pushed for logging practices in the watershed to do two things: protect clean drinking water and public safety. Citizens have expressed their reasonable expectation that, as these lands are entrusted to the state, activities on these lands shall not harm, but rather shall benefit, the public. Those goals are consistent with the broad public trust set forth in the Washington State Constitution and are consistent with subsequent laws and court decisions.² The DNR has the ability, and now the direction, to hold the pursuit of clean drinking water and public safety as management goals, rather than constraints and to manage these lands for the good of all the people.

II. Overview

A. Background

In 2000, the Washington State Legislature unanimously passed ESSB 6731, the Lake Whatcom Bill, with the intent of protecting public safety and clean drinking water in the Lake Whatcom watershed. This legislation came forward just a year after the same legislative body passed HB 2091, the Forests and Fish bill. In 2000 the legislature clearly recognized both the critical importance of protecting the sole source of water for half of Whatcom County and the threat posed by risky forest practices on the unstable slopes above neighborhoods in the watershed.

There is a high level of concern in Whatcom County about logging on unstable slopes in the Lake Whatcom watershed. Just over a year ago, on September 12, 2001, more than 100 citizens, plus a number of elected officials, attended the DNR's first scoping meeting for the EIS and all but two of the citizens who spoke asked that DNR protect clean drinking water and prevent landslides. A common refrain was that clean drinking water and people are of greater value than lumber. Citizens asked again and again that there be **no clearcuts in the watershed**. People expressed their expectations that DNR management shall not cause harm to public resources.

B. Forest Practice Rules

Throughout the PDEIS it is optimistically stated that the HCP, the new Forest practice rules and the Watershed Analysis are sufficient. But sufficient for what? The HCP was designed to protect habitat for wildlife such as northern spotted owl, marbled murrelet and several runs of salmonids. Forest practice rules were designed to bring Chinook salmon back from the brink of extinction and Watershed Analysis, while it had reasonable goals, suffered

² Chasen, Daniel Jack, 2000. A Trust For All the People: Rethinking the Management of Washington's State Forests. *Seattle University Law Review*. Vol 24, No 1

³ Collins, B. D. and G. R. Pess, 1997. Evaluation of Forest Practices Prescriptions From Washington's

from a systemic lack of scientific rigor³.

These rules were simply not designed to protect municipal drinking water reservoirs nor did they maintain a particularly high standard for slope stability. The Forest practice rules were designed to reduce sediments in streams rather than in lakes. Sediments that enter a lake remain in the lake. When oxygen levels are low, as happens in Lake Whatcom, phosphorous is released, which in turn feeds potentially toxic algae. Sediments from logging quickly age a lake. Lake Whatcom is the sole source of drinking water for half of Whatcom County and management activities, like road construction or aggressive logging, that generate sediment will have profound, lasting and costly consequences.

C. Lake Whatcom Watershed Objectives

The legislative intent for ESSB 6731 was clear: protect drinking water quality and public safety in the Lake Whatcom watershed and the PDEIS (Vol. 1, pp 25-56) lists objectives that are consistent with legislative intent.

- **We ask that DNR adopt an alternative that provides the strongest possible protection for drinking water quality and public safety in the Lake Whatcom watershed.**

D. Follow the Lake Whatcom Bill

Several means of achieving those objectives are stated in ESSB 6731 itself: riparian management zones along all streams, including type 5 streams; strict limitations on harvest and road construction upon potentially unstable slopes; prohibitions on new roads and limited road reconstruction on unstable slopes; direction to DNR to develop a road management plan and to work with an interjurisdictional committee. And the legislature also instructed DNR to **"build on the existing draft Lake Whatcom landscape plan and incorporate both new information from the community and new scientific information when available."**

It is clear from the PDEIS literature citations that you have ignored this directive: you have failed to examine and incorporate any recent scientific record. Published data that is widely known is simply ignored. Protecting water quality from landslide-related sediment is a critical element of the landscape plan, however, the most current relevant reference on this topic in the PDEIS under Earth is Varnes, 1978. That was 24 years ago and a great deal of research has been published since that time. Dr. Dave Montgomery is a well-known expert in the field. We have included a review of this PDEIS by Dr. Montgomery to assist your future efforts to incorporate science in the landscape plan. We also request that future environmental documents and analysis rely on current scientific literature.

Watershed Analysis Program. Journal of the American Water Resources Association 33(5):969-996

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Protecting clean drinking water from management-related activities is another essential element of the landscape plan, yet the PDEIS references no recent studies in that field. There are several recent publications relevant to water quality that should be considered as part of the landscape plan, including:

1. Collins, B. D. and G. R. Pess, 1997. Critique of Washington's Watershed Analysis Program. Journal of the American Water Resources Association 33(5):997-1010
2. Collins, B. D. and G. R. Pess, 1997. Evaluation of Forest Practices Prescriptions From Washington's Watershed Analysis Program. Journal of the American Water Resources Association 33(5):969-996

• **We ask that DNR follow the direction of the legislature and examine all relevant scientific literature in the field of forest practices, slope stability and impacts of forest practices on water quality and use those studies in writing the Lake Whatcom landscape plan.**

I have enclosed ESSB 6731, the Lake Whatcom Bill, as the bill is missing from the PDEIS. Please include it in the DEIS to ensure the public is well informed about the legislative intent. The current summary is completely insufficient. For example, on page 22, section 3.1.3.1, the PDEIS lists 4 issues that the bill addresses, including "an approach to managing road construction in areas with unstable slopes." The bill says this: "Harvest and road construction upon potentially unstable slopes shall be carefully regulated; on unstable slopes, new road construction shall be prohibited and old road reconstruction shall be limited." Your language conveys a different meaning and paraphrasing, rather than including the language, does not serve to clarify.

- **We ask that you include the bill language in future documents.**

III. Public Safety

The legislative intent was to protect public safety and Page 25 of the PDEIS states that the Department has adopted the following objective:

Objective 1: Ensure no significant risk to public health, safety and resources, and tribal archaeological and cultural resources from forest management related mass-wasting events.

We ask that DNR select an alternative that meets that high standard. A large percentage of the watershed is known to be unstable or is potentially unstable. It is well documented that clearcut logging and roads on potentially unstable slopes increase the risk of landslides. We recommend DNR examine the following:

Schmidt, K. M., Roering, J. R., Stock, J. D., Dietrich, W. E., Montgomery, D.

- R., and Schaub, T., 2001. Root Cohesion Variability and Shallow Landslide Susceptibility in the Oregon Coast Range. Canadian Geotechnical Journal. V. 38, pp 995-1024
- Montgomery, D. R., 1994. Road Surface Drainage, Channel Initiation and Slope Instability. Water Resources Research. 30(6): 1925-1932

- **We ask that the risk of landslides should not merely be minimized or reduced: DNR must ensure that there is no significant risk to public health, safety and resources from logging related mass wasting.**
- **We ask that DNR adopt an alternative that ensures no significant risk to public health, safety and resources from logging related mass wasting. As laid out below, the only alternatives that accomplish this are Alternatives 4 and 5.**

A. Alternative 1

This alternative, using existing Forests and Fish rules and the HCP, allows clearcut timber harvests on unstable and potentially unstable slopes and it allows some 60 miles of new roads to be constructed. While the PDEIS states: "no probable significant impacts to slope stability are expected from harvest activities under this alternative" we find that to be an extraordinary claim and find no supporting evidence. In fact, the scientific literature is clear: clearcut logging increases the incidence and size of landslides and debris torrents triggered by decreased root strength and increased groundwater. The goal is to avoid significant risk of mass wasting. DNR can do this by avoiding timber harvest on unstable and potentially unstable slopes. As watershed analyses "focus on determining existing stability, rather than potential instability" (Collins and Pess, 1997), using the existing Lake Whatcom watershed analysis will not avoid the risk of mass wasting from potentially unstable slopes.

- **We ask that DNR cite the studies that document and support the claims in Alternative 1.**

Steep slopes above neighborhoods and along streams leading to a municipal drinking water supply are not places to experiment with new rules that are not supported by scientific literature. We find this alternative to be inconsistent with the stated objective and with the letter and the intent of the legislation as Alternative 1 puts public safety and resources at risk of mass wasting caused by logging practices.

Alternative 1 relies on Watershed Analyses prescriptions. However, according to Collins and Pess "prescriptions are experimental by nature, but the majority of prescriptions from the first 20 watershed analyses in Washington did not provide a justification that indicated reason to expect the prescription would meet its objective."

- **We ask that DNR provide justification for the watershed analysis prescriptions for Lake Whatcom.**

Cumulative effects are ignored by Alternative 1 and the causes of past debris torrent events on DNR land in the watershed are not examined. Page 94 of the PDEIS references the 1983 debris flow events. These events deserve much more careful treatment, particularly regarding the cause. According to newspaper articles from the time, the debris flow events were caused by past DNR logging practices. In fact, the City of Bellingham took DNR to court, the court found DNR responsible, and billed DNR \$5 million to offset the clean-up costs the city faced. Not included in that cost are the costs of damage to residents, roads and other infrastructure, the costs of civil cases, if any and legal costs borne by the state in DNR's defense.

It is correct to state that it can take years for the impacts of forest practices to play out on the ground. Many of the prescriptions proposed are untested, experimental and lack scientific rationale. Additionally, the combination of effects are unexamined, for example logging will produce more sediments and more groundwater and those two effects may have a larger combined impact.

- **We ask that DNR examine the cumulative effects for the alternatives which are selected for further study.**

B. Alternative 2

While this alternative presents less risk than alternative 1, we question whether or not this can adequately protect drinking water and public safety for the same reasons: it relies heavily on mapping that may or may not be accurate and it continues to allow clearcut timber harvest on unstable and potentially unstable slopes. The association between clearcuts and landslides on unstable slopes is well-documented (see attached letter from David Montgomery). This alternative will not meet the objective of ensuring that there are no landslides triggered by logging. Putting lives and resources at risk in order to harvest more timber is unacceptable to the public.

C. Alternative 3

This alternative provides greater protection of unstable slopes and further reduces the risk of landslides on potentially unstable slopes. On potentially unstable slopes, over 50% of the trees will be retained. Is there evidence to suggest that 50% retention on potentially unstable slopes prevents landslides?

- **We ask that DNR provide documentation of the level of risk associated with partial cutting. We ask that DNR provide the scientific references that demonstrate that cutting 50% of trees on potentially unstable slopes will ensure no landslides.**

D. Alternative 4

Alternative 4 reduces the risk of landslides further by prohibiting any timber harvest on potentially unstable slopes. There is abundant scientific rationale for such a prohibition. It also takes a more conservative approach to roads in the watershed which is likely to have less impact on slope stability.

Alternative 4 further reduces the risk of slope failures by treating all high hazard roads and orphaned roads. In addition to not causing further harm, DNR must also work to reduce ongoing risks caused by past practices. Page 99 of the PDEIS states that orphaned forest roads were the primary triggering mechanism for most of the landslides that occurred during the 1983 event. It appears that DNR understands the long-term impacts of old roads – it is time to act on that knowledge.

- **We ask that all orphaned and high hazard roads be treated within 2 years of adopting the landscape plan.**

E. Alternative 5

Alternative 5 meets the stated objective by ensuring no significant risk to public, health, safety and resources. There is scientific rationale to adopt Alternative 5.

IV. Clean Drinking Water

The legislative intent is to protect drinking water and page 25 of the PDEIS states that the Department has adopted the following objectives:

Objective 2: Maintain and restore the sediment regime within the range of natural variability.

Objective 3: Protect and restore riparian and wetland habitat to sustain healthy native aquatic, wetland and riparian ecosystems.

Objective 4: Maintain and restore the forest hydraulic regime for each sub-basin, within the range of natural variability.

Objective 5: Maintain and restore water quality necessary to support healthy riparian, aquatic and wetland ecosystems.

- **We support those objectives and ask that the alternative you choose meets those standards so that drinking water is protected.**

Language should be clarified: according to an email communication from Robin Matthews, sentence #3 in 4.1.1.3, there were no estimates of percentages of water from trust lands in Matthews et al., 2002.

DNR is correct in stating that one of the intents of the new Forest Practice rules is to improve fish habitat. Yet the primary concern with Lake Whatcom is not fish habitat, although that is one concern, but water quality in the lake. Keeping the water in Lake Whatcom cool is essential to protecting drinking water. As the lake warms, less oxygen is available. DNR's 1997 Watershed Analysis determined that only 75 percent of the forest stream miles met shade targets for maintaining temperatures. This is a concern for water quality in the lake and we ask that the alternative meet 100% of shade

targets.

Page 100 discusses an experiment in fertilization on forestlands in the watershed. While it's unclear, I assume that DNR monitored the stream but the water then flowed into Lake Whatcom. Did you also test increases in nitrate and nitrite in Lake Whatcom at that point? Lakes are different from rivers – they do not transport contaminants downstream, they keep contaminants in the lake. Experiments with a drinking water reservoir are unwise, particularly when lake effects are not measured, nor are cumulative effects considered. Can the use of chemicals in a municipal drinking watershed be justified by a slight increase in timber productivity?

Objective 2 of the PDEIS states: "Maintain and restore the sediment regime within the range of natural variability." The range of natural variability must not become a rationale for human-caused events. These are unstable slopes in a municipal drinking watershed and DNR management actions must not contribute to their instability and to increased sediments in the lake.

A more comprehensive review of water quality will be forthcoming as we have contracted with a limnologist to provide a review of the PDEIS.

A. Alternative 1

Both the HCP and the recent changes to Forest Practice rules were designed to meet the needs of endangered species such as spotted owls and anadromous fish, rather than the high standards required to protect a municipal drinking water reservoir. Additionally, Forests and Fish and the Watershed Analysis program have, as their goal, maintaining a viable forest products industry. That objective pales when measured against the need to protect public safety and drinking water. While sediment levels, stream temperature and nutrient levels may improve somewhat under the new rules, there is reason to believe they will not improve sufficiently to meet the objectives for drinking water. Quite simply, that's a higher standard and, given that Lake Whatcom is the sole source of drinking water for half of Whatcom County, that's not something we can gamble with. DNR forest lands must be managed in such a way that they will deliver clean water to Lake Whatcom. Alternative 1 doesn't do that.

Alternative 1 allows road construction on unstable slopes, despite evidence that erosion will be increased and landslides can be triggered. Alternative 1 allows orphaned roads to remain. Alternative 1 allows aerial spraying of chemicals in a drinking water reservoir. The PDEIS (p. 157) states that under Alternative 1 introduction of sediment into surface waters is unavoidable and that increases in nutrient concentrations from timber removal cannot be prevented. Since DNR manages half the Lake Whatcom watershed and since it is anticipated that 89 acres of clearcuts and 47 acres of thinning will occur each year, those introductions and increases add up to a significant negative

impact over the landscape.

Alternative 1 provides no buffers for type 5 streams. How many miles of unbuffered type 5 streams are there in the planning area? Without buffers, disturbed soils near type 5 streams will deliver sediment, unfiltered, to the lake. For a drinking water reservoir, all streams must be buffered in order to deliver clean drinking water. Those buffers also provide some benefit to wetlands – an important part of water quality in the lake - and they lower the temperature in streams.

As the PDEIS states (p. 156), when impacts occur from timber harvesting, they are often long-term and cumulative. Examination of the complex interaction of cumulative effects has not taken place for these 15,657 acres, and this examination is necessary.

The PDEIS states (p. 157) that Alternative 1 does not have probable, significant adverse impacts yet no scientific rationale for that statement can be found in the PDEIS. In fact the PDEIS states: "some introduction of sediment from roads into surface waters is unavoidable. This is especially true for existing roads. It also is difficult to prevent all sediment entry when constructing stream crossings. Increases in nutrient concentrations resulting from timber removal cannot be prevented." (PDEIS Page 157)

- **We ask that you provide evidence of independent studies that reach the conclusions of Alternative 1 that the cumulative effects of those actions will not have probable, significant adverse impacts.**

You state that conditions should actually improve over time. We remind DNR that past practices led to catastrophic debris flows – it would be difficult to do worse.

In the area of public water supply the PDEIS states that increases in water yield are unavoidable and increases in annual nutrient loading are unavoidable. Over the landscape, that will have a significant impact and must be avoided. That can be done by avoiding clearcut logging in the watershed. You state that Alternative 1 is unlikely to adversely affect the public water supply. Past forest practices have adversely affected the water supply yet no rationale for this statement is provided. Objectives must be more than words or goals, the citizens who drink the water and the legislators who voted for the Lake Whatcom bill all expect that those objectives will be achieved. Alternative 1 will not achieve the objectives.

B. Alternative 2

The planning area is a municipal drinking watershed. The public forest lands in the watershed managed by DNR, must deliver clean, filtered water to that lake.

Alternative 2 buffers all streams which is an improvement over Alternative 1. Alternative 2 prohibits road construction on unstable slopes which reduces the risk of mass wasting and reduces potential sediments. However, Alternative 2 allows clearcuts and road construction on potentially unstable slopes. There is no justification for this level of risk in the scientific literature. Alternative 2 does not meet the objectives of the committee.

C. Alternative 3.

Water quality is seriously impacted by mass wasting and the caution that applies to harvest on unstable slopes applies here: where is the rationale for allowing 50% of timber to be harvested on potentially unstable slopes? What is the risk that timber harvest on potentially unstable slopes will trigger landslides? Those questions must be answered and the source referenced.

- **We ask that you provide the scientific rationale for allowing up to 50% timber harvesting on potentially unstable slopes.**

We support the increased road restrictions under this alternative. Maintaining a greater percentage of forest in mature forest conditions is an important part of protecting drinking water and public safety.

D. Alternative 4

Alternative 4 allows timber harvest while significantly lowering the risk of mass wasting and impacts to drinking water. No harvest nor road construction should occur on unstable or potentially unstable slopes in order to protect public safety and the quality of drinking water, unless a body of scientific evidence demonstrates that it can be done safely. Clearcuts contribute to mass wasting and eliminating clearcuts leads to increased protection – there is ample justification for such a restriction in the scientific literature.

The PDEIS (page 245) states that “The cumulative impacts from implementation of this alternative would be much reduced from Alternative 1, but would be only minimally different from Alternative 2 or 3.” However, the PDEIS (page 245) also states that “impacts from rain-on-snow induced instability due to increases in soil-water would be essentially eliminated since regeneration harvesting would not be occurring.” Those two statements are inconsistent and the first statement is not accurate. Rain-on-snow events on clearcuts or partial cuts are a key trigger for mass-wasting. Essentially eliminating rain-on-snow induced instability is a significant improvement over Alternatives 2 and 3.

Alternative 4 also lowers the increase of water yield and peak flows which is an important part of delivering clean water downstream to Lake Whatcom. Paving the roads at stream crossings is a good idea for sediment reduction. Alternative 4 “will significantly reduce the sediment contribution from roads” (PDEIS p. 246) providing for cleaner water. Prohibiting chemicals is a

drinking water reservoir is sensible and supportable.

Removing existing roads is an essential step. Old logging roads contribute to mass wasting and treating old logging roads is a sensible and necessary action.

E. Alternative 5

Alternative 5 would provide a significant contribution to water quality in the Lake Whatcom watershed and would meet the stated water quality objectives.

V. Fish and Wildlife

Alternatives 3 and particularly 4 and 5 will result in significantly improved habitat for fish and wildlife in the Lake Whatcom watershed. Streams will be cleaner with better spawning gravel for native kokanee and the riparian areas will provide a more diverse habitat for a number of creatures. It will move from being a monoculture to being a diverse, older forest that supports a healthier wildlife population.

The PDEIS lists species that have been extirpated from the planning area, including northern spotted owl, marbled murrelet, marten, elk, fisher. It is conceivable that some of those species will, in time, return to the Lake Whatcom watershed if conditions improve for wildlife. Additionally, a number of wildlife species of interest, such as northern goshawk, osprey and vaux's swift can be expected to return to the watershed with improved mature forest conditions.

We have contracted with a forest ecologist to provide a detailed review of this section to assist you in selecting an alternative and in writing the DEIS. That review will be forthcoming.

VI. Other Issues Addressed

A memorandum of agreement with the tribes is long overdue and should be a part of any landscape plan.

We encourage DNR to plan for non-motorized recreation as part of the Lake Whatcom Landscape plan. This is likely to become a more desirable place to recreate as the forest matures.

Please consider longer rotations of 140 to 200 years as part of the selected alternative. A forest that has a greater percentage of area hydrologically mature will improve water quality in the lake.

Please consider buffers on wetlands and unstable slopes and windthrow buffers on all riparian management zones as part of your selected alternative.

VII. Revenue and Risks

Our financial analysis of the annual financial revenues from DNR lands in the Lake Whatcom watershed, based on Table PDEIS4-1, Appendix D – Financial Assessment – 9/13/02, is attached for the record. We obtained the local disbursement list from the Whatcom County Treasurer based on a representative tax parcel in January 2002. The following is an excerpt from our revenue table, and does not include all the revenues:

	Alternative 2	Alternative 3	Alternative 4
Local Whatcom County Revenues (total of 7 local districts)	\$359,510	\$75,166	\$68,468
Common School Account	\$229,050	\$47,890	\$43,622
Total DNR management fees	\$210,726	\$44,058	\$40,133

- However, the revenues are only part of the overall financial assessment. We ask that, as part of the DEIS, the DNR conduct a risk assessment for potential landslides in the watershed based on potential costs of lake clean up, loss of homes, loss of infrastructure and loss of life.

Following the 1983 landslides in the Lake Whatcom watershed the City of Bellingham took DNR to court to require that DNR pay the costs of the damage incurred by logging. Courts ordered DNR to pay \$5 million for the clean up costs of the landslides. Costs of damage to homes, cars, property and infrastructure were additional to that \$5 million. Fortunately there was no loss of life.

In 1996 in Rock Creek Oregon, logging on steep slopes above homes triggered a landslide that crushed a home. Four people were killed, leaving 2 children orphaned and two children without a mother. In the civil suit that followed, *Marvin v. Champion International*, citizens sought \$11.3 million. Champion settled out of court for an undisclosed amount of money.

Those two cases illustrate the profound liability of logging potentially unstable slopes above neighborhoods and within a municipal drinking water supply. Hundreds of citizens, including elected representatives of Sudden Valley and Whatcom County, have made DNR aware of the potential for landslides and the potential for loss of life and property. The liability is large and the responsibilities are grave: one landslide triggered by logging or road building on unstable slopes could erase 200 years of profits from harvest on those lands.

Any landscape plan that includes some level of risk, such as timber harvest or roads on unstable or potentially unstable slopes, needs to assess both potential revenues and potential losses in light of such risks. Alternative 2

allows partial timber harvests on potentially unstable slopes. This is an experiment with an unknown level of risk. The revenues are calculated with a 200 year window; the risks should be calculated over the same time frame for each alternative.

VIII. The Letters from DOE and DOH

Throughout the PDEIS DNR cites two letters, from the Department of Ecology and the Department of Health, as evidence that Alternative 1 is adequate. While the original letter from Commissioner Sutherland is not included, the original question appears to be repeated in the DOE letter. That question does not refer to Alternative 1, but to Alternative 2: what should be done on forestlands beyond "the Forest Practice Rules and the Lake Whatcom Watershed Analysis; the DNR's Forest Resource Plan and HCP for state trust lands, and the additional requirements set forth in ESSB 6731." Drinking water and public safety are of the highest importance. It is our expectation that decisions regarding the impacts of forest practices to slopes above homes and above a drinking water reservoir be made based on science, rather than conjecture.

Please read the letters more carefully and consider whether they constitute proof of water quality, particularly for Alternative 1, as you state under Water Quality in the Executive Summary. We believe that they merely offer opinion, and that the opinion offered up reflects on Alternative 2, not Alternative 1. We also note that the letter from the DOE is signed by an engineer, not a limnologist.

- **We ask that you provide the qualifications of the engineer who wrote the letter, particularly her training and experience evaluating water quality and risks from forest practices.**
- **We ask that, if you continue to use these letters as "proof", that you provide the original letter so the reader understands what questions the letters are attempting to answer.**

The DOE representative states in the letter that "In the case of Lake Whatcom the limiting nutrient is phosphorus...Phosphorus enters a lake either through rain runoff or by attaching to soil particles that are eroded into the lake." When mass-wasting occurs, or erosion from roads or poor forest practices occurs, forestlands are a significant source of soil particles entering the lake. Preventing sediments from entering Lake Whatcom is essential to its long-term health. Only Alternatives 4 and 5 will lead to that level of protection.

The letter from DOH is signed by a secretary and lists a number of activities with adverse impacts.

- **We ask that you provide the qualifications of the secretary who wrote the letter, particularly her training and experience evaluating water quality and risks from forest practices.**

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One of those listed activities under Tier 2 is timber management. DOH states that assessing risk is the job of the City of Bellingham and WCWD #10. The DOH letter contains errors. It states that the "water treatment facilities located on Lake Whatcom have been designed and constructed in response to activities historically associated with the state forest lands." Bellingham's water treatment plant is not located on Lake Whatcom, but WD#10 has a treatment plant near the lake in Sudden Valley. It is not accurate to say that either one was designed or constructed in response to forest management activities.

The DOH letter says, "very few of the potential contaminant sources identified...could originate from...DNR activities." True, yet large amounts of one contaminant, sediment, are sufficient to have a significant impact on drinking water quality. The cumulative effect of logging in the watershed, particularly under Alternative 1, is likely to be the delivery of large amounts of sediment through erosion and through mass wasting.

The DOH letter goes on to say that typically, practices that protect the environment usually protect drinking water sources. There are any number of practices that protect the environment that do not protect drinking water – some will improve drinking water, some will be neutral, some will not protect drinking water. We challenge the DOH and DNR to back that up with proof. The DOH letter also says that "DNR should consider implementing the recommendations of that (1999) committee."

- **We join DOH in suggesting that DNR, at a minimum, follow the recommendations of the 1999 Lake Whatcom committee and we have enclosed them for your consideration.**

IX. Conclusion

We thank you for this opportunity to provide comments. We ask that you respond to the questions we've asked.

The Lake Whatcom Landscape Plan is both a legislative directive and an opportunity for the Department of Natural Resources to work with citizens to create a new kind of plan: one that protects essential public values, rather than a plan that merely minimizes or delays damage to public resources. The resources we seek to protect are of the highest importance to the public: clean drinking water for more than 85,000 people and the lives of those living below DNR forestland.

There is no room for experimentation.

The alternative you choose should, at a minimum, comply with the directive of ESSB 6731 to protect clean drinking water and public safety. Every element of the landscape plan should be backed by well-established, current science.

Northwest Ecosystem Alliance - Lake Whatcom Landscape Plan PDEIS

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- **We ask that the DNR move Alternative 4 and Alternative 5 forward for further study. Other Alternatives should not receive further scrutiny as they do not meet the objectives.**

The PDEIS states as Objective 1: ***“ensure no significant risk to public, health, safety and resources, and tribal archaeological and cultural resources from forest management related mass-wasting events.”*** This is a high standard. Alternatives 1, 2 and 3 fall short of meeting that and other objectives. Only Alternative 4 and Alternative 5 meet that standard. Only Alternative 4 and Alternative 5 meet the legislative intent of protecting public safety and a municipal drinking water reservoir.

Sincerely,

Lisa L. McShane
Director of Community Relations
Northwest Ecosystem Alliance

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CERTIFICATION OF ENROLLMENT

ENGROSSED SECOND SUBSTITUTE SENATE BILL 6731

Chapter 205, Laws of 2000

56th Legislature
2000 Regular Session

LAKE WHATCOM LANDSCAPE MANAGEMENT

EFFECTIVE DATE: 6/8/00

Passed by the Senate March 7, 2000
YEAS 44 NAYS 0

BRAD OWEN

President of the Senate

Passed by the House March 1, 2000
YEAS 98 NAYS 0 CERTIFICATE

I, Tony M. Cook, Secretary of the Senate of the State of Washington, do hereby
certify that the attached is ENGROSSED SECOND SUBSTITUTE SENATE BILL 6731 as
passed by the Senate and the House of Representatives on the dates hereon set
forth.

CLYDE BALLARD

Speaker of the
House of Representatives TONY M. COOK

Secretary

FRANK CHOPP

Speaker of the
House of Representatives
Approved March 29, 2000

FILED

March 29, 2000 - 2:59 p.m.

GARY LOCKE

Governor of the State of Washington
State of Washington

Secretary of State

ENGROSSED SECOND SUBSTITUTE SENATE BILL 6731

AS AMENDED BY THE HOUSE

Passed Legislature - 2000 Regular Session

State of Washington 56th Legislature 2000 Regular Session

By Senate Committee on Ways & Means (originally sponsored by Senators
Spaniel and Gardner)

Read first time 02/08/2000.
AN ACT Relating to Lake Whatcom; and creating a new section.

BM14

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

{+ NEW SECTION. +} Sec. 1. The Lake Whatcom landscape management pilot project is created.

The department of natural resources shall develop a landscape plan regarding state-owned forest lands in the Lake Whatcom watershed area. Where appropriate, the department will consult with other major forest landowners in the watershed and shall involve watershed residents in management activities. The department shall consult with the Lake Whatcom management committee on proposed timber harvest and road management activities. The department shall establish an interjurisdictional committee for the development of the landscape plan, to review the site-specific activities and make recommendations. The interjurisdictional committee shall include two members of the public who have an interest in these activities. The landscape plan shall address at least the following topics:

(1) Establishing riparian management zones along all streams, as classified under chapter 4, Laws of 1999 sp. sess. The department shall manage lands within such zones to protect water quality and riparian habitat. The interjurisdictional committee may recommend to the department restrictions upon timber harvest and yarding activities on a case-by-case basis;

(2) Harvest and road construction upon potentially unstable slopes shall be carefully regulated;

(3) On unstable slopes, new road construction shall be prohibited and old road reconstruction shall be limited;

(4) A sustained yield model specific to the Lake Whatcom watershed that encompasses the revised management standards and that is consistent with the sustained yield established by the board of natural resources shall be created and implemented;

(5) The department should build on the existing draft Lake Whatcom landscape plan and incorporate both new information from the community and new scientific information when available; and

(6) The development of a road management plan for the watershed.

The landscape plan shall be completed and implementation initiated by June 30, 2001. Timber harvest and all road construction in the watershed on state land shall be delayed until the plan is completed.

Passed the Senate March 7, 2000.

Passed the House March 1, 2000.

Approved by the Governor March 29, 2000.

Filed in Office of Secretary of State March 29, 2000.

10/25/02

Lisa McShane
Northwest Ecosystem Alliance
1421 Cornwall Avenue, Suite 201
Bellingham, WA 98225

Dear Lisa,

At your request I have reviewed portions of the Preliminary Draft E.I.S. for the Lake Whatcom Landscape Plan that address slope stability. I have paid particular attention to evaluating differences in the way that the 5 alternatives would influence the potential for mass wasting. But first off I must note that I am puzzled by the statements in all the alternatives regarding the removal from Smith Creek of "large woody debris, which increases the risk of log jams and the resulting debris torrents". Contrary to the logic implied by the EIS statements, the creation of log jams most likely would act to retard the propagation of debris flows. Cutting the largest woody debris "into chunks" will increase the potential for entraining wood debris into debris flows and will eliminate the effect of large stable log jams on retarding debris flow propagation. These effects will increase the potential for long runout debris flows and therefore the probability of impact to downstream residents. In addition, wholesale removal, or cutting up of large woody debris from the creek will do little to reduce the risk of catastrophic debris flows and will certainly result in degraded habitat conditions in the creek.

In reading the Preliminary Draft E.I.S. I considered implications for evaluating the potential for each of the Alternatives to meet the stated objective to "*ensure no significant risk ... from forest management related mass wasting events*".

Alternatives 1 and 2 provide the weakest assurance of no significant risk. Assuming that the mass-wasting prescriptions relating to timber harvest in the Lake Whatcom Watershed Analysis are less restrictive than those proposed under Alternative 2, neither alternative provides assurance of no significant elevation of landslide risk from forest management. The alternatives provide substantial leeway for risk taking upon "*on-site evaluation by a DNR specialist*". The degree to which this may prove effective at ensuring no significant risk depends not only upon the training and talent of the DNR specialist(s) but also on the institutional definition of acceptable risk that guides their interpretations and assessments. Given DNR's track record at managing landslide risk in the past, the assurance that risky actions such as "*harvest and road construction upon potentially unstable slopes*" shall be "*carefully regulated*" should provide little solace to a family living at the base of a potentially unstable slope. Moreover, the draft E.I.S. indicates that Alternative 1 would result in construction of 2.7 miles of road on unstable or potentially unstable slopes. It is difficult to see how to reconcile this inherently risky action with the goal of ensuring no significant risks of management related landsliding. Although the draft E.I.S.

5716

indicates that under Alternatives 1 and 2 the risk of landsliding associated with forest practices would be substantially mitigated by adhering to current forest practice rules, those rules were not designed to protect public safety, they were designed to accommodate timber harvest to the extent possible while mitigating potential adverse impacts on salmonids. Risk is the product of hazard (the chance of occurrence) and the impacts that result from such occurrences. Hence, the bar is higher for assessing no significant risk when public safety is at issue. It is disingenuous to simply maintain without critical review that standards set to protect fish are adequate to protect people.

Precluding road construction and timber harvesting on "unstable" slopes in Alternative 2 removes the potential for patently risky actions, but it does nothing to address the fundamental problem of increased risk of landsliding resulting from harvest or road construction on potentially unstable slopes. And yet it is the latter problem that is generally of interest in terms of forecasting the effects of a management regime on public safety. Identifying the existing active landslides and restricting actions on them should not be difficult to do (at least not from a technical perspective). In contrast, the identification of future landslide sites among those considered to be potentially unstable is notoriously difficult (if not impossible), and so it is in the management of the potentially unstable slopes that the major differences in the alternatives play out. Alternative 2 allows harvesting and road construction on potentially unstable slopes upon consideration of "*inter-jurisdictional committee and specialists recommendations*". Such consideration provides no guarantee that decisions would in fact "*ensure no significant risk*".

Alternative 3 provides for a 140' buffer around the unstable ARS's 1,2, 3 and 4, which encompasses ancient and dormant landslides, and incised stream channels and would preclude almost all roads on potentially unstable slopes. In addition, Alternative 3 would allow up to 50% harvesting on potentially unstable slopes. This prescription for potentially unstable slopes is experimental. I know of no studies that have demonstrated that a 50% partial cut on potentially unstable slopes (such as hollows, headwalls, and slopes steeper than 70% as they are defined in the Draft E.I.S.) would "*ensure no significant risk*" of landsliding from timber harvest. To the contrary, an analysis of the effect of root reinforcement on slope stability recently published in the Canadian Geotechnical Journal (Schmidt et al., 2001; a study which I was a co-author on), found that spatial variability in root strength—such as one might anticipate would result from a partial cut—was associated with those potentially unstable sites that generated rapidly moving, highly destructive debris flows in the Oregon Coast Range. In other words, the partial cut alternative for managing potentially unstable slopes is an experiment that carries with it an unknown element of risk, a risk that recent research suggests may not be minimal. Therefore, I cannot conclude that Alternative 3 would meet the stated objective of not significantly elevating the risk of management-related landsliding.

Alternative 4 precludes both timber harvest and road construction not only on unstable slopes but also on potentially unstable slopes. As this option would prevent management-induced alteration of factors that most strongly influence slope stability, I conclude that it is likely to "*ensure no significant risk*" of landsliding from timber harvest. Alternative 5 does not differ much from Alternative 4 in terms of potential impacts on slope stability, and also would be likely to achieve the stated goal.

I hope that this brief review is helpful in this important process.

David R. Montgomery
Professor of Geomorphology and Licensed Geologist # 520 (State of Washington).

References Cited:

Schmidt, K. M., Roering, J. R., Stock, J. D., Dietrich, W. E., Montgomery, D. R., and Schaub, T., Root cohesion variability and shallow landslide susceptibility in the Oregon Coast Range, Canadian Geotechnical Journal, v. 38, p. 995-1024, 2001.

Washington State Trust Lands: held in trust for all the people

Annual Net Revenues from Logging on DNR lands in the Lake Whatcom Watershed

	Alternative 2	Alternative 3	Alternative 4
Total Whatcom Local Revenues	\$359,510	\$75,166	\$68,468
Those local revenues are divided up among the following beneficiaries:			
School District	\$133,398	\$27,891	\$25,406
Road Fund	\$76,228	\$15,938	\$14,517
Fire District	\$61,935	\$12,949	\$11,795
County	\$52,407	\$10,957	\$9,981
Library	\$19,057	\$3,984	\$3,629
Port	\$14,293	\$2,988	\$2,722
Conservation Futures	\$2,192	\$458	\$417
In addition to the local beneficiaries, Whatcom Forest Board Lands also produce revenue for the following:			
DNR Management Fee	\$134,376	\$28,095	\$25,592
State General Fund	\$114,342	\$23,907	\$21,776

Whatcom County Forest Board Lands (60% of DNR Land in the Lake Whatcom Watershed)

	Alternative 2	Alternative 3	Alternative 4
Total Common School Revenues	\$305,400	\$63,853	\$58,163
The common school trust lands produce revenue for the state's school construction account and provide a 25% management fee:			
Common School Lands Revenue	\$229,050	\$47,890	\$43,622
DNR Management Fee	\$76,350	\$15,963	\$14,541

Common School Trust Lands (30% of DNR Land in the Lake Whatcom Watershed)

Assumptions: 4% Annual real discount rate, based on Lake Whatcom Landscape plan PDEIS Appendix D Financial Assessment – 9/13/02 and a representative Whatcom County January, 2002 Tax assessment for a DNR parcel in the Lake Whatcom watershed. County portion is 70% of all DNR lands, w/ DNR management fee at 22% ; state common school construction account is 30% of all DNR lands with DNR management fee at 25%. The remaining 10% of the lands were not included in this calculation. Constraints were divided evenly up among the trusts, but according to DNR's chart, p. 194, of the PDEIS, constraints are higher on Forest Board lands and revenue may be less than represented here.

Lake Whatcom Revenue Table Version 2, 10/18/02. Corrections made to Version 1, distributed 10/15/02.

Barbara MacGregor
DNR SEPA Center
1111 Washington Street SE
PO Box 47015
Olympia, WA 98504-7015

October 28, 2002

RE: Lake Whatcom Landscape Plan

Dear Ms. MacGregor

Perspective: I am a Professor in the College of Forest Resources at the University of Washington, Director of the UW/WSU Rural Technology Initiative and President of the Consortium for Research on Renewable Industrial Materials (CORRIM), a consortium of 13 research institutions in the US and Canada devoted to the development of life cycle environmental performance measures for renewable materials used in construction. My area of research for the last decade has been focused heavily on the economic impacts of managing forests for timber and non-timber values. I have participated in several studies that have developed more cost effective management pathways for restoring habitat and riparian functions for species dependent upon old forest structures. I also contributed to a thorough analysis of the limitations of the DNRHCP. I would like to comment on several aspects of the Lake Whatcom Landscape Plans relative to the experience that I have gained through these prior efforts.

Active Management Alternatives are Conspicuously Missing from the Lake Whatcom Alternatives

Looking at the Lake Whatcom plans brought back memories of our extensive effort in reviewing the DNR HCP just a few years ago. The Lake Whatcom HCP scenario results in a 52% decline in harvest much like the decline we simulated for the DNRHCP in 1996. Our analysis (Bare et al 1997, Bare et al 2002) suggested that by practicing landscape management (active management pathways to restore some habitat conditions) rather than landscape preservation, the economic (and harvest) losses could be reduced substantially while producing at least as much habitat measured by habitat suitability indicators (and riparian functions) across the managed lands. The other Lake Whatcom planning alternatives show even greater harvest and revenue losses than the HCP scenario. The methodology for managing lands for environmental values while also producing revenue for trust beneficiaries has been well documented by our study using principals developed in the Washington Forest Landscape Management Project (Carey et al, 1996, Carey et al 1999).

I have attached a summary fact sheet on our early analysis of the DNR HCP that provides the results of a series of sensitivity runs to better understand the difference between management alternatives and largely land preservation approaches. We found management pathways that could achieve higher habitat suitability indicators than the DNR HCP plan with an economic loss of only 20%, incorporating active management for habitat protection and restoration objectives.

The Lake Whatcom Plans Are Not Consistent with the DNR Sustainable Harvest Calculation Alternatives

Even DNR's current effort to determine the sustainable harvest level for DNR lands is attempting to evaluate alternatives much like those developed in these studies. Alternatives like these are conspicuously missing in the Lake Whatcom planning alternatives. The alternative plans erroneously assume that no-management provides the best pathway for habitat conservation. These studies have shown that active management alternatives can produce habitat restoration and better protection at lower cost and thus with better revenue for trust beneficiaries. The plans being considered are not in the best interest of the trust beneficiaries because they do not include a search for better economic alternatives. They are also seriously lacking in metrics that can provide useful measures of environmental protection.

It would be far better to wait for the results of the current DNR sustainable harvest level strategic analysis process to determine best strategies than lock in any of the current Lake Whatcom Alternatives. If the current DNR sustainable harvest calculation planning efforts come close to replicating our methods we can expect similar results which can also be applied to the Lake Whatcom Landscape.

Carbon Sequestration is Increased by Forest Management and the Use of Wood Products

Testimony presented at the hearing inferred that not managing forestland provided the greatest contribution to carbon sequestration, and therefore mitigation to prevent global warming. That testimony was incorrect on several points resulting in an erroneous conclusion. Over the long term, the carbon stored in unmanaged forests is in approximate equilibrium, neither increasing nor decreasing and makes no contribution to global warming. The carbon stored in long lived products such as the lumber in housing continues to increase providing a growing pool of stored carbon hence some contribution to reducing the causes of global warming (Bowyer et al 2002, Bowyer 2001). However, not harvesting or even delaying the harvest of wood for products contributes to the substitution of steel and concrete which is fossil fuel intense, increasing carbon emissions and the contribution to global warming. I have attached a short fact sheet and appropriate references that should help to correct the record on this point.

The Impact of Runoff from Harvest Units Depends Upon Many Factors

Testimony presented at the hearing also inferred that runoff from harvest units (clearcuts) dramatically increased runoff during the event, thus increasing erosion, and reducing water quality. While I do not pretend to be an expert in this area I know it is a complex question and asked a PhD Candidate that has been doing research in this area to respond. I have attached his comments. As you will note, the issue is complex with many more considerations important than were implied by the prior testimony.

While it is quite appropriate that DNR should be using the best science for managing the forest with sustainability objectives in mind, that frequently requires understanding the issues in considerable depth. We are more than happy to provide the results of relevant research and consultation on the development of alternative plans if that would be of assistance.

Bruce Lippke
Director, Rural Technology Initiative
College of Forest Resources
University of Washington
& President, CORRIM

Attachments:

- (1) DNRHCP Impact Fact Sheet
- (2) Carbon Fact Sheet
- (3) Rain runoff question and response

References:

- Bare, B. Bruce, B. R. Lippke, W. Xu. 2002. "Cost Impacts of Management Alternatives to Achieve Habitat Conservation Goals on State Forest Lands in Western Washington." *Western Journal of Applied Forestry*, 15(4) 2002. Pp217-224.
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From: "Bruce R. Lippke" <blippke@u.washington.edu>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Mon, Oct 28, 2002 4:59 PM
Subject: Lake Whatcom Landscape Plan - comments

Attached is a letter summaizing my comments on the Lake Whatcom Landscape Plan and three supporting attachments. I will send them as a Fax also to make sure all of the documents can be opened

Bruce Lippke

What is the role of forests and forest management on carbon storage?

Question: A gentleman discussed Carbon (C) storage and made it sound like an old growth forest was the only option to efficiently store Carbon. He went on to say those who suggested C could be stored in forest products were incorrect, that those products deteriorated over time and released the C. He presented his argument in the context that Old Growth lasted forever and stored C forever. He not once mentioned fires, insects and disease and the fact that trees don't live forever.

On the question of the forests role in storing carbon and the impact of forest management on carbon storage, a consortium of 14 research institutions across the US (mostly universities) have been looking at this question for several years. The Consortium for Research on Renewable Industrial Materials (CORRIM), a not for profit university lead government research group, developed a research plan in 1998 to study the complete environmental performance of wood by developing a life cycle inventory (LCI) data base of all inputs and outputs from forest regeneration, through harvest, processing, construction, building use and final disposal. They completed an interim report on forests in the PNW and SE in March of 2002.

Their reports and presentations at the 2002 annual meeting of the Forest Products Society (www.CORRIM.org) characterize the impact of forests and forest products on carbon under several management strategies.

The simplest example often cited is that you can store more carbon in the forest on longer rotations or with no harvest at all. It is true that extending the rotation age from 50 to 100 years in the PNW will more than double the inventory of wood and carbon stored in the forest. Extending the age even further will increase the carbon stored somewhat more but eventually, due to natural disturbances such as windstorms, fire, and disease the volume of timber and carbon stored will decrease, followed by new growth and renewal. Looked out over the long term across these disturbances and with no harvesting, there is no increase or decrease in carbon stored in the forest.

However, this is just the beginning of the carbon storage accounting if any products are removed from the forest. While short-lived products such as paper may enter the waste stream quickly and decompose, long lived products including housing construction continue to grow over time as more houses are built and the carbon stored in houses lasts longer than the rotation age, thereby accumulating carbon storage from rotation to rotation. The housing stock continues to increase and the carbon stored in housing is increasing. The carbon stored in trees, and short and long-lived products is shown in figure 1 for a short rotation (40 years) and in figure 2 for a longer rotation (80) years. The carbon in short-lived products decomposes rapidly resulting in carbon emission while those in long-lived products decompose slowly with some residual build-up in storage from rotation to rotation. Figure 3 shows the carbon stored in the forest without harvesting assuming no natural disturbances.

Figure 1:

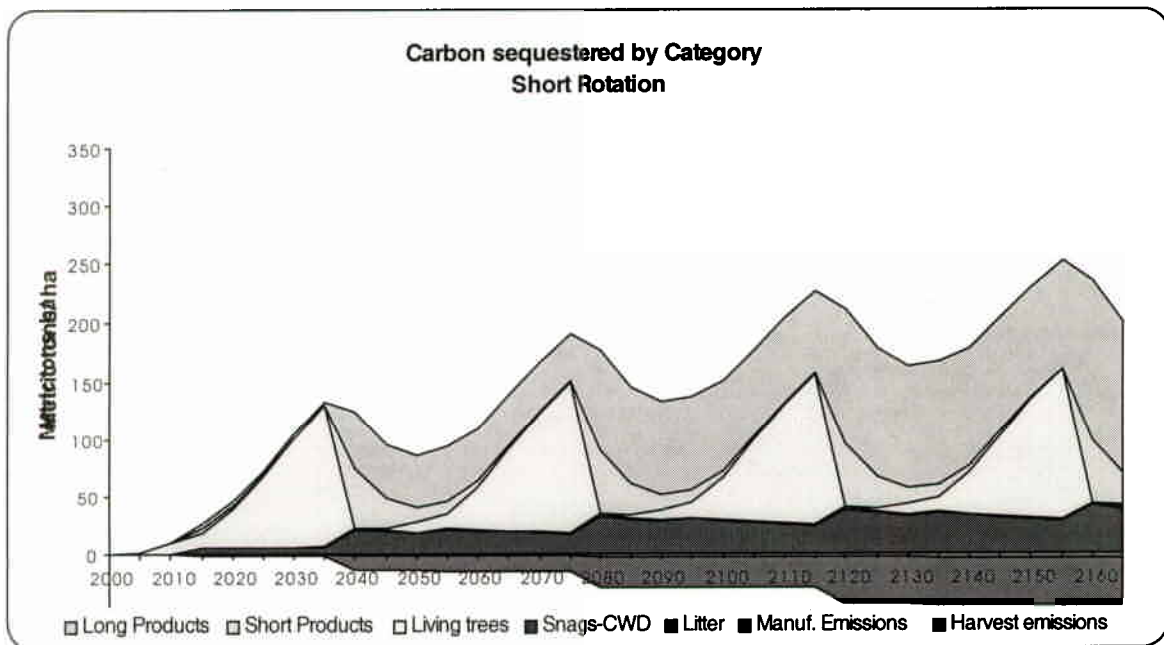


Figure 2:

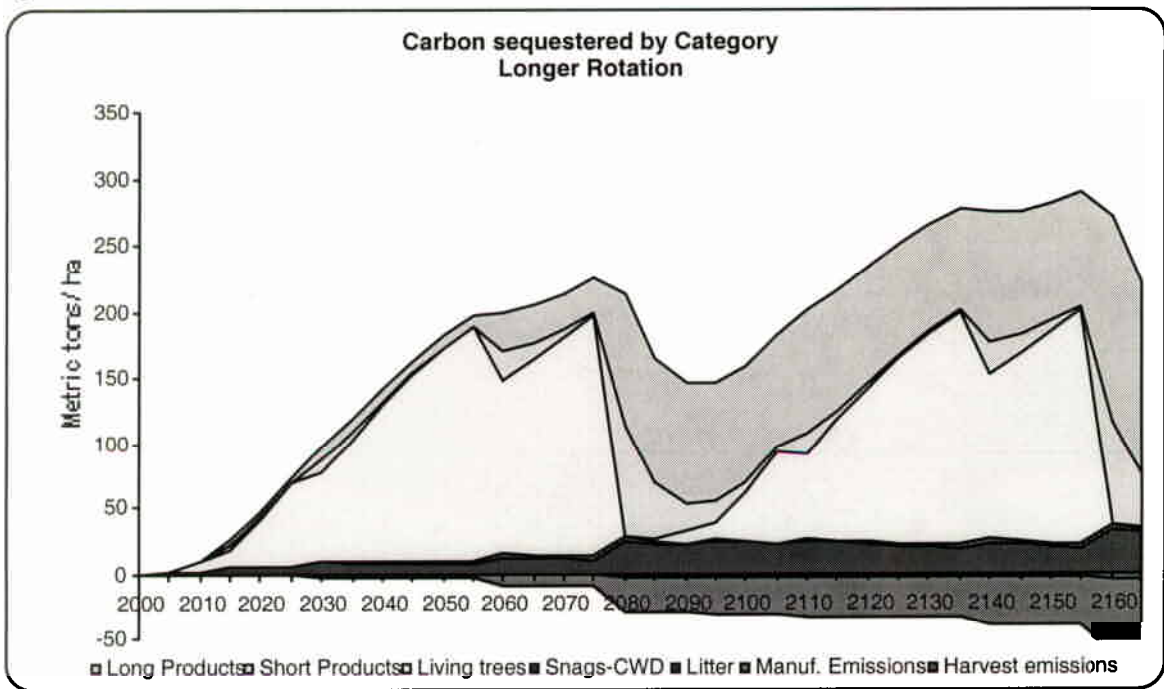
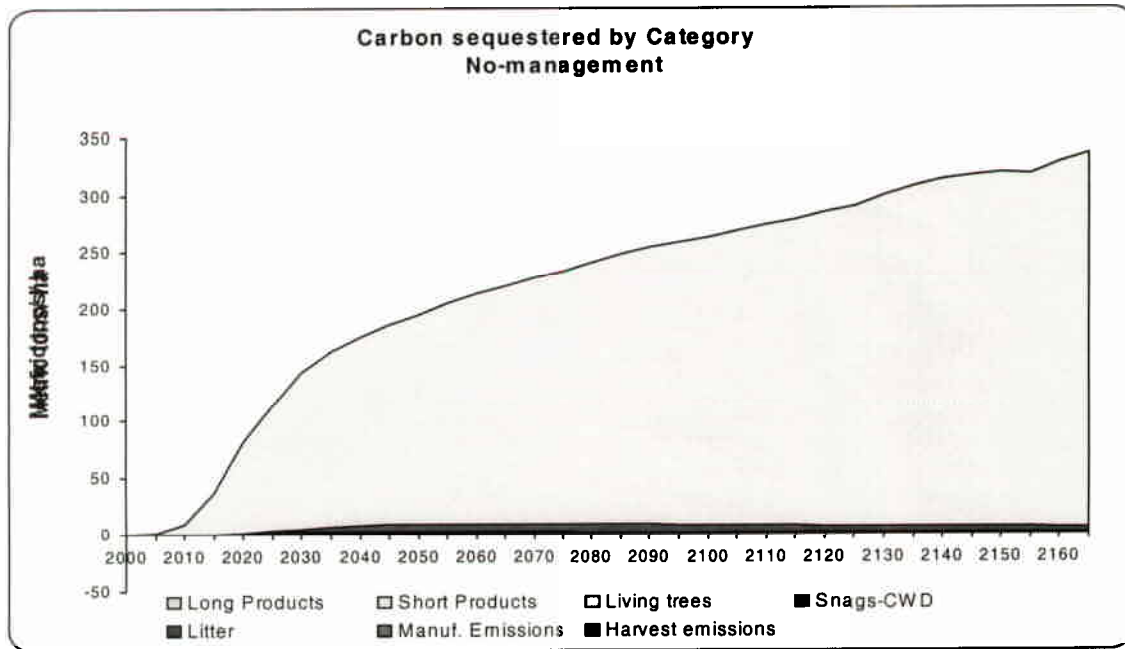


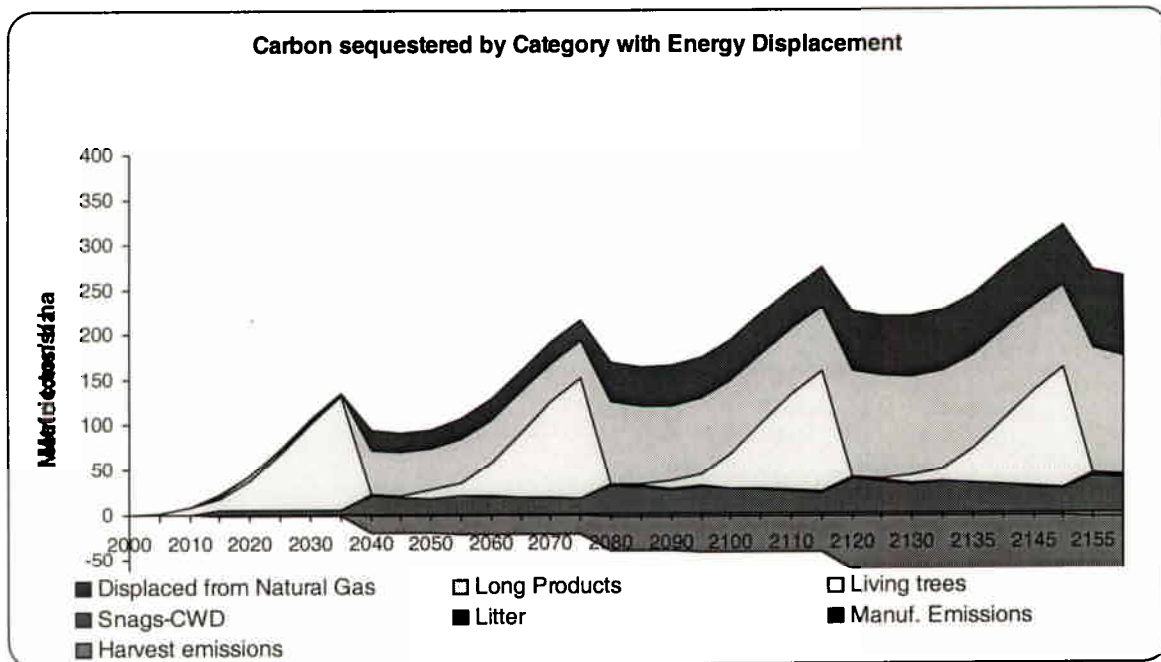
Figure 3:

EMV



If the short lived products are used as a biomass source for producing energy (co-generation), net electrical energy is added to the electrical grid, displacing fossil fuels as another source of accumulating carbon storage (reduced emissions) from rotation to rotation. While a low valued use of wood and not the best way to increase carbon storage, using the wood as a fuel, thereby substituting for fossil fuels, will increase carbon storage over time. While some of the short lived products are always used for energy, some of these products will generally produce higher value than when used for energy production. Figure 4 shows the full energy burden to produce both short and long-lived products and the energy credit when the short-lived products are used to produce electrical energy instead of using natural gas, the most efficient fossil fuel source for energy.

Figure 4:



The impact of long rotations or no harvest produces a very counterproductive impact on the product stream. Forests taken out of production or delayed harvests result in the substitution of other products that are generally fossil fuel intensive like steel and concrete. This delay in producing products from wood as is evident by comparing Figure 1&2 necessitates the use of substitute products that substantially increase carbon emissions (reducing carbon storage).

Drawing the boundary conditions for the analysis around a forest is only correct if there is no harvest, in which case over the long term the forest stores a substantial amount of carbon but it is neither increasing or decreasing looking across disturbance cycles. In that sense, it plays no role in the equation of global warming and how to reduce carbon emissions.

While long rotations may store more carbon on the forest floor and contribute more products for carbon storage in the long term, the short-term deficit of wood that results from extending the rotation cannot be ignored. Substitution in steel and concrete during the interval between a short rotation of 50 years to a longer rotation produces such large carbon emissions from substitute products that long rotations are only useful for carbon storage if we talk in terms of hundreds of years, far beyond any policy targets under discussion.

Figures 5 and 6 show the impact of carbon stored under various management regimes first without accounting for product substitution and then with product substitution to produce the same number of houses in Minneapolis, substituting steel houses when there is a shortage of wood relative to the 40 year rotation.

Figure 5:

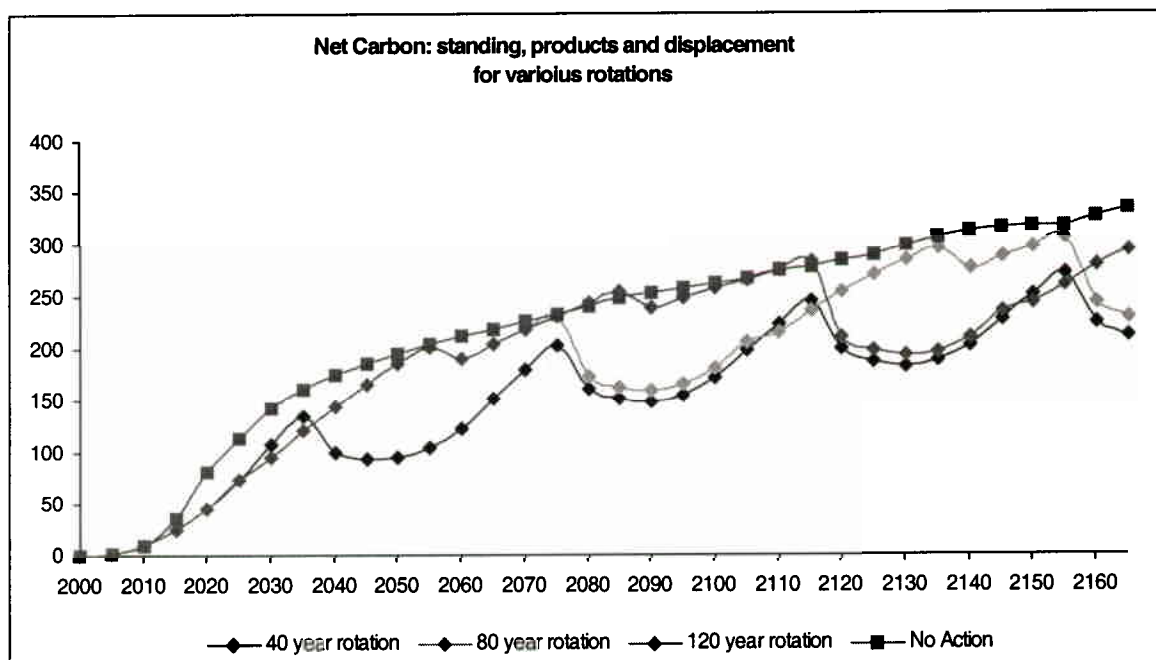
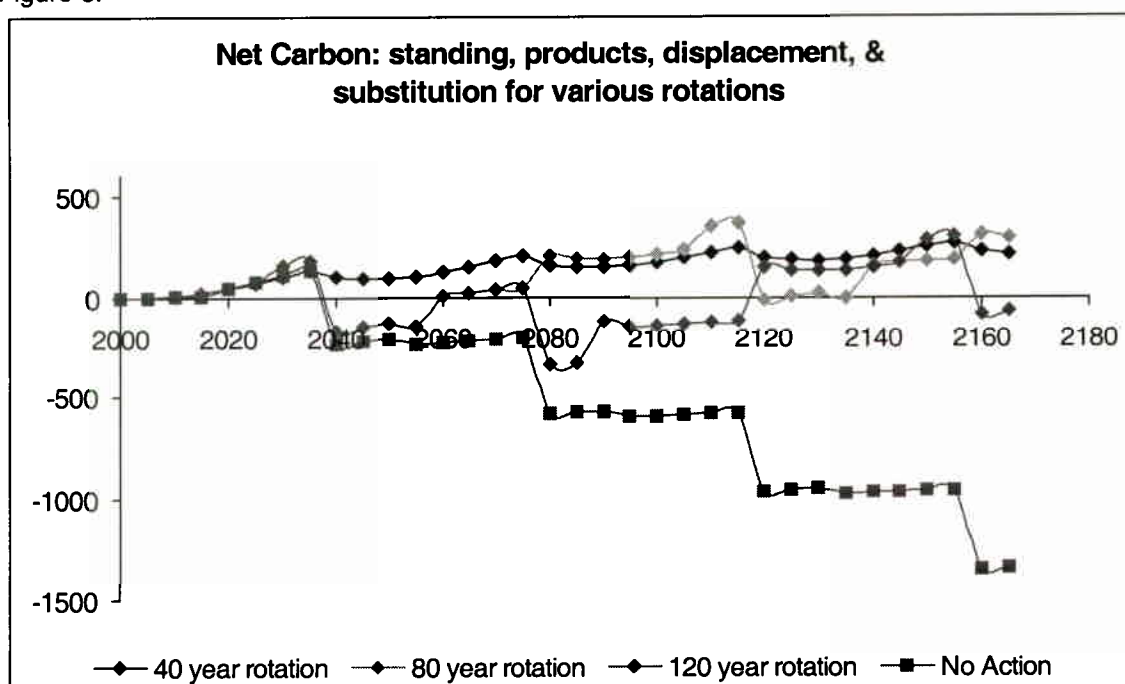


Figure 6:



The carbon in the forest is only useful for increasing carbon storage if land not in forestry is converted to forestry, a one time increase in storage, or if periodic harvests convert the trees to long lived products in an increasing pool of product storage, i.e. construction applications. For rotational forestry, the more intensive the management that increases the volume growth on short rotations that can produce long-lived products quickly, the more rapid the increase in carbon storage. In the PNW, that means intensive management on 45-50 year rotations for average site

productivity is probably optimal and the higher the value of carbon in the short term it will likely reduce rather than increase the rotation age. If the carbon is valued more highly in the long term (hundreds of years) a high enough value for carbon could motivate longer rotations but not no-harvesting.

Bruce Lippke
Professor and Director RTI
& President CORRIM

Summary of Analysis

Demonstration of Trust Impacts from Management Alternatives to Achieve Habitat Objectives on DNR Managed Lands

A 1995 review of the Washington State Department of Natural Resource (DNR) proposed Habitat Conservation Plan (HCP) noted that no search for lower cost alternative treatments was provided and that no meaningful baseline assessment existed against which the proposed HCP option could be compared. Hence, the Department's claim that the proposed HCP was in the best economic interests of the trust beneficiaries was not valid. The reviewers proposed an approach that would be sufficient to determine if adequate habitat could be provided while contributing greater benefits to the trust beneficiaries. Since the Department did not respond to the identified inadequacies, the University of Washington and Washington State University commissioned a demonstration of the recommended procedures on the Westside acres managed by DNR (1.4 million acres).

Results summarized below demonstrate that management alternatives exist to meet habitat conservation goals at substantially lower cost than the strategy adopted in the DNR HCP -- producing as much as 80% more value and \$300 million more revenue per year to trust beneficiaries. DNR's HCP contributes unnecessarily to reduced financial trust performance with indications that some trusts may be harmed, or at least are not equitably benefiting from the gains that should be possible from collective management.

Simulating management alternatives and the DNR HCP: The difference in Net Present Value (NPV) between a simulated DNR HCP and the actual DNR HCP is shown to be insignificant. However, the NPV difference between management alternatives to achieve minimum habitat goals compared to the DNR HCP is substantial.

Impact of habitat goals and alternative management strategies	NPV (\$billion)
* Forest Practice Board (FPB) riparian buffers and green tree retention	15.1
* Addition of 1996 FPB murrelet and owl (SEA) habitat (current minimums)	13.3
* DNR's HCP including nondeclining harvest flow constraints (equivalent prices)	7.4
* Alternative (ALTS) with more habitat and better intergenerational equity	13.3
(DNR HCP uses nondeclining flow constraints vs. +/-10% change per decade for the other alternatives)	

DNR's adherence to nondeclining harvest flow constraints in conjunction with habitat conservation set-asides produces intergenerational differences more than twice as large as the ALTS alternative as well as reduced revenue from a \$5.9 billion lower asset value. Sensitivity analysis identified seven major contributors to this inferior performance.

Sensitivity analysis of the individual factors that contribute to the ALTS alternative producing 80% higher NPV than the simulated DNR HCP

(1) undermanaged riparian management zones vs. partial harvest treatments	6.1%
(2) off-base unstable slopes vs. adaptive management of sensitive areas	7.8%
(3) owl/murrelet off base nests & zones vs. managed biodiversity pathways	9.6%
(4) DNR treatments with 60 year minimum rotations vs. a range of alternatives	10.8%
(5) nondeclining flow constraints vs. +/-10% decade to decade maximum change	8.8%
(6) small DNR planning units vs. a single management unit	10.3%
(7) excessive harvest losses* vs. losses adequate for debris and snags	8.0%

*DNR released sustainable harvest calculations in October 1996, after the HCP public review period, with unexplained harvest losses nearly twice as large as shown here -- another loss to trust beneficiaries.

Cumulative improvement for alternatives relative to DNR HCP 80 %

Each of the management differences identified above are contributing significant losses to trust beneficiaries.

Explanation of differences: The DNR HCP losses are based on set-aside or minimal management approaches which may be sufficient to eventually produce habitat goals but are not the only alternative available and are economically less efficient in meeting conservation goals. The demonstrated alternatives produce almost four times as much late-seral forest structure (of importance to multi species habitat) per \$ of cost (or loss) compared to the simulated DNR HCP. DNR relied on a science team composed of biologists heavily weighted to regulators and federal agencies to set end point conditions without consideration of silvicultural and economic alternatives. A multi-disciplinary team representing both biological/habitat expertise, silvicultural expertise and fiduciary trust management interests, such as utilized by the private sector for development of an HCP, would have searched for lower cost alternatives like those demonstrated.

Demonstrating that an HCP is better than managing to minimum standards: Habitat measures used in the analysis to assure that the simulations met minimum standards and that the alternatives produced at least as much habitat as the DNR HCP included: (a) Forest Practice Board definitions for Old, Sub-mature and Young Forest Marginal suitable owl habitat; Dispersal; and Murrelet habitat; and (b) the best available multi-species habitat measures from the Washington Forest Landscape Management project including six stand structure classes and three multi-species habitat indices. Acreages for each of these biological measurement classes were developed for each treatment alternative, a richness in biological measures not provided in the DNR HCP but necessary for comparative evaluation.

In order for the HCP to be in the best interests of trust beneficiaries, the HCP should provide the lowest possible loss to the beneficiaries that also meets current and expected future regulatory requirements. The simulated current 1996 minimum regulatory standards resulted in an NPV close to the ALTS-alternative but substantially higher than the simulated DNR HCP. As a consequence, to lower the risk that more restrictive regulatory actions in the future could further reduce the NPV, the strategies in the demonstrated alternative could be developed as a multi-species HCP.

The no-change baseline used by DNR for comparison to the HCP showed losses almost as high as their proposed HCP -- evidence that it was impacted by much more than minimum standards and was an invalid baseline for determining whether their HCP would be in the best interests of the trusts.

Fiduciary approaches for individual trusts: It is necessary to show that individual trusts are not harmed by collective management for the benefit of other trusts. This requires a trust-by-trust analysis of minimum standards applied to individual trusts to be used as a baseline to show that collective management procedures do not benefit some trusts at the expense of others. DNR did not provide such an analysis. For the most appropriate allocation of economic gains from collective management (gains that offset part of the losses from minimum standards) an equitable procedure is developed that allocates regained benefits to the individual trusts proportionate to what they lost.

Exceeding comparable conservation standards applied to the private sector: Forest practice regulations for green tree retention, adjacency greenup and class 1-3 stream buffers (as included for all simulations in the report) produce losses estimated at 9.5% from a no regulation base. The minimum owl and murrelet standards under the 1996 Forest Practices Board were estimated to increase losses for DNR acres by 13% for a 21% total loss relative to no regulations. The proposed DNR HCP results in a total loss in excess of 50%. The demonstrated alternative results in total regulatory costs of 20%. It also produces substantially more habitat than minimum standards, even more than the DNR HCP, and therefore probably reflects an unnecessarily high standard for habitat conservation. While no direct private sector HCP cost comparisons are available, some owners have found the requirements sufficiently costly to motivate their efforts to reduce the cost by developing an HCP. Anecdotal evidence suggests their habitat goals and resulting costs are substantially lower than the DNR HCP, and therefore ALTS, such that goals closer to minimum requirements might be sufficient and therefore be in the best interests of the trusts.

For more information see the report entitled, *Demonstration of Trust Impacts from Management Alternatives to Achieve Habitat Objectives on DNR Managed Lands*, College of Forest Resources, Box 352100, University of Washington, Seattle 98195-2100. Fax (206) 685-0790

From: "Finn Krogstad" <fkrogsta@u.washington.edu>
Organization: University of Washington
Reply-To: <fkrogsta@u.washington.edu>
Date: Fri, 25 Oct 2002 14:32:04 -0700
To: "'Bruce Lippke'" <blippke@u.washington.edu>

Subject: RE: Whatcom Lake Technical Issues

Professor Lippke,

In regard to your questions about whether timber harvest increases runoff and landsliding; both impacts have been pretty well documented. What is poorly understood is the ecological impact of increasing runoff and landsliding.

Logging has been shown to increase peakflows. Since trees intercept and transpire (some) water, they can reduce the amount of water getting to the streams, particularly in Autumn storms. Similarly, since trees intercept (and melt) snowfall and blanket any underlying snowpack, they can reduce snowmelt during rain-on-snow floods. Harvesting the trees can thus be expected to increase resulting peakflows. These theoretical results are verified in a well controlled data set analyzed by Jones & Grant (1996).

There is considerable controversy about whether this effect is confined to the small flows (that happen several times a year) or whether it also is 'significant' in the larger floods (that have ecological and economic impact). Thomas & Megahan (1998) revisited the same data set and found that this effect of harvesting decreases with the size of the storm, and that there is not sufficient evidence to demonstrate a harvest induced increase for the size of storm (>2yr) that is typically of interest. This is the wrong question however, instead of asking about the SIZE of the small floods. What we really care about is the FREQUENCY of storms of a given size, such as the frequency of events that can scour salmon redds or blow-out bridges and culvers. My reanalysis of the Jones & Grant (1996) and Thomas & Megahan (1998) studies has suggested that harvesting turns out to have a greater impact on the large floods than on the small ones.

One way to avoid these impacts might be to disperse harvest units around the watershed, then harvest other units as these re-grow, and so on. Both Jones & Grant (1996) and Thomas & Megahan (1998) found that harvesting only part of the basin had a smaller impact than harvesting the entire basin all at once. A blunt reading of these results, however, is that more harvesting equals more flooding. If we use the analogy of a toxin however, we might view the increased peakflows as 'safe', so long as it is not too high, for too long, in any given reach.

Essential in dispersing harvests over time is the notion that as stands grow older, they replace the hydrologic effects of the stands that are about to be cut.

Hydrologic maturity is the concept that supposedly makes preharvest peakflows smaller than postharvest peakflows. If there are lots of needles, then there should be lots of transpiration, interception, and snowpack insulation. It is more difficult to find actual data that shows peakflows getting back to their preharvest levels. This may be because hydrologic maturity requires much bigger trees than we might think. The H.J. Andrews data that Jones & Grant (1996) and Thomas & Megahan (1998) used shows a rapid peakflow decrease in the first 5 years after harvest, but no decline in peakflows in the next 20 years. As such, hydrologic maturity is an interesting concept, with lots of theoretical estimates of when stands should achieve hydrologic maturity, but lacking data to justify or select between these estimates.

It is thus clear that logging causes flooding, but is it ecologically bad to increase peakflow? This is much more difficult to answer than simple hydrologic questions. I might approach it as follows: If you want to know what a stream will look like if you increase peakflow, just go downstream to where another stream joins and increases the flow already. Do downstream reaches have such bad ecological value? There are streams all over the state with higher peakflows and lower peakflows. Do the higher peakflow streams have worse ecological value? If we increase the peakflow of the smaller stream to be more like one of the slightly larger streams. Will this be a bad thing? Would the streams be ecologically better if we could somehow reduce the streamflows? It might be argued that the change from one flow regime to another is the problem. Hydrologic change (both within years and between years) is an element of natural process, so it is difficult to declare this change to be a problem.

Landsliding has similarly been shown to increase after harvest. This has largely been linked to postharvest decay of the root systems of the harvested trees, but could also stem from post-harvest increases in soil saturation. The roots of the new stand gradually replace the decaying root system, but during the period (about 3-10 years after harvest in westside forests) when the old are decaying but the new haven't fully occupied the soil yet is when we see most of the post harvest landsliding.

This is not to say that unharvested stands do not landslide, they do. In fact, some have argued that there might be just as many of these landslides, but they are obscured by the forest canopy, so they are undercounted by air photo surveys of landsliding, making landslides only LOOK like they are more frequent under canopy. It might be argued the link between harvesting and landsliding is really just an issue of better counting of landslides in clearcuts, and that proper counting of landslides under forest canopy might identify just as many landslides as are found in clearcuts. This was part of the thinking in the Oregon landslide survey, which looked at landsliding under forest canopy, and found many more than had been previously suspected. This is a disturbing conundrum, but has not overcome the weight of observations relating logging to landsliding.

EM17

The effects of logging on landsliding, over the long run, is less clear. Logging might just be seen as prematurely initiating landsliding that would have naturally happened in a few centuries anyway. Landslides need soil, and there is no reason to think that management will create soil faster, so landslide rates will be similar under managed and unmanaged forests.

The real question though is about the ecological impacts of landsliding. Landsliding is a natural process, so it might be viewed as being no more of an ecological problem than rain or sunshine. Landslide debris flows can scour out the existing habitat along their path, but does this mean that the new simplified habitat have less value? Landslide debris flows are an important source of gravel and wood that can not be transported down the small streams by normal stream flows. By harvesting, we may be making more landslides, but it is not clear that that is necessarily bad.

I hope this helps,

Finn Krogstad, Doctoral Candidate
College of Forest Resources
University of Washington
Seattle, WA 98195

EM18

From: "Steve Reed" <srwildcat@ecoisp.com>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: 10/28/02 5:01PM
Subject: File # 02-091300

Comments on Lake Whatcom PDEIS

October 28, 2002

Steve Reed
P.O. Box 29292
Bellingham, WA 98228-1292

William Wallace, SEPA Responsible Official
SEPA Center
Department of Natural Resources
P.O. Box 47015
Olympia, WA 98504-7015

Dear Mr. Wallace:

In preparing the Lake Whatcom DEIS, please include the following:

Develope, and analyze the environmental impacts of, the following new alterna with these elements and actions:

- No Clearcuts of any sort (no even-age rotation, no overstory removal, no stand replacement, no shelterwood cuts, etc.)
- No new road construction or reeconstruction of old roads (except stabilization and restoration)
- A total moratorium on all new electronic (radio, cell, etc.) towers and no lease renewals
- Analyze all known and suspected avian impacts from existing, and likely future, electronic towers, sites, and related facilities. Site latest and most comprehensive studies available, and incorporate information from those studies in the environmental analysis.

Sincerely,

Steve Reed

EM19

From: Erin Moore <emoore@ecosystem.org>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: 10/28/02 5:52PM
Subject: Comments Regarding Lake Whatcom PDEIS

October 28, 2002

William Wallace, SEPA Center
Washington State Department of Natural Resources
1111 Washington Street SE
MS:47015
Olympia, WA 98504-7015

Dear Mr. Wallace,

Lake Whatcom is our sole source of potable, fresh water in Bellingham and surrounding areas. We must do everything we can to retain the forests around the lake, on the DNR-managed lands, to maintain the Lake Whatcom watershed fresh and sediment-free for the people of the Washington. I urge you and the Lake Whatcom Landscape Committee to select Alternative 4, the alternative offered that best protects clean water and public safety in the Lake Whatcom watershed.

Streams in the watershed, as well as all wetlands, should be given no-cut tree buffers. It is these waterways and wetlands that do the priceless work of storing and filtering water, and meting out water during sudden storms. These areas are also especially critical for wildlife. The department can and should further protect water quality by building no new roads, making no new clearcuts (only partial cuts), and applying no chemicals.

As a recreational mushroom hunter and president of the local Northwest Mushroomers Association (NMA) in Whatcom County, I know that members of NMA are especially concerned that robust stands of older second growth be retained on these public watershed lands. Older second-growth forests have superb uses for mushroom hunting and collecting. Many of the most prized mushrooms such as chanterelles and matsutake are found in the second growth in the watershed, and are forest mushrooms wiped out by a clearcutting regime. Please select Alternative 4 to best protect this resource, along with our most prized possession: the waters of Lake Whatcom.

Thank you for your kind attention to my voice on this matter and thank you for the opportunity to comment on the Lake Whatcom draft environmental impact statement.

Sincerely,

Erin Moore
2835 Broadway
Bellingham, WA 98225

From: "Bruce R. Lippke" <blippke@u.washington.edu>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Mon, Oct 28, 2002 4:59 PM
Subject: Lake Whatcom Landscape Plan - comments

Attached is a letter summaizing my comments on the Lake Whatcom Landscape Plan and three supporting attachments. I will send them as a Fax also to make sure all of the documents can be opened

Bruce Lippke

Barbara MacGregor
DNR SEPA Center
1111 Washington Street SE
PO Box 47015
Olympia, WA 98504-7015

October 28, 2002

RE: Lake Whatcom Landscape Plan

Dear Ms. MacGregor

Perspective: I am a Professor in the College of Forest Resources at the University of Washington, Director of the UW/WSU Rural Technology Initiative and President of the Consortium for Research on Renewable Industrial Materials (CORRIM), a consortium of 13 research institutions in the US and Canada devoted to the development of life cycle environmental performance measures for renewable materials used in construction. My area of research for the last decade has been focused heavily on the economic impacts of managing forests for timber and non-timber values. I have participated in several studies that have developed more cost effective management pathways for restoring habitat and riparian functions for species dependent upon old forest structures. I also contributed to a thorough analysis of the limitations of the DNRHCP. I would like to comment on several aspects of the Lake Whatcom Landscape Plans relative to the experience that I have gained through these prior efforts.

Active Management Alternatives are Conspicuously Missing from the Lake Whatcom Alternatives

Looking at the Lake Whatcom plans brought back memories of our extensive effort in reviewing the DNR HCP just a few years ago. The Lake Whatcom HCP scenario results in a 52% decline in harvest much like the decline we simulated for the DNRHCP in 1996. Our analysis (Bare et al 1997, Bare et al 2002) suggested that by practicing landscape management (active management pathways to restore some habitat conditions) rather than landscape preservation, the economic (and harvest) losses could be reduced substantially while producing at least as much habitat measured by habitat suitability indicators (and riparian functions) across the managed lands. The other Lake Whatcom planning alternatives show even greater harvest and revenue losses than the HCP scenario. The methodology for managing lands for environmental values while also producing revenue for trust beneficiaries has been well documented by our study using principals developed in the Washington Forest Landscape Management Project (Carey et al, 1996, Carey et al 1999).

I have attached a summary fact sheet on our early analysis of the DNR HCP that provides the results of a series of sensitivity runs to better understand the difference between management alternatives and largely land preservation approaches. We found management pathways that could achieve higher habitat suitability indicators than the DNR HCP plan with an economic loss of only 20%, incorporating active management for habitat protection and restoration objectives.

The Lake Whatcom Plans Are Not Consistent with the DNR Sustainable Harvest Calculation Alternatives

Even DNR's current effort to determine the sustainable harvest level for DNR lands is attempting to evaluate alternatives much like those developed in these studies. Alternatives like these are conspicuously missing in the Lake Whatcom planning alternatives. The alternative plans erroneously assume that no-management provides the best pathway for habitat conservation. These studies have shown that active management alternatives can produce habitat restoration and better protection at lower cost and thus with better revenue for trust beneficiaries. The plans being considered are not in the best interest of the trust beneficiaries because they do not include a search for better economic alternatives. They are also seriously lacking in metrics that can provide useful measures of environmental protection.

It would be far better to wait for the results of the current DNR sustainable harvest level strategic analysis process to determine best strategies than lock in any of the current Lake Whatcom Alternatives. If the current DNR sustainable harvest calculation planning efforts come close to replicating our methods we can expect similar results which can also be applied to the Lake Whatcom Landscape.

Carbon Sequestration is Increased by Forest Management and the Use of Wood Products

Testimony presented at the hearing inferred that not managing forestland provided the greatest contribution to carbon sequestration, and therefore mitigation to prevent global warming. That testimony was incorrect on several points resulting in an erroneous conclusion. Over the long term, the carbon stored in unmanaged forests is in approximate equilibrium, neither increasing nor decreasing and makes no contribution to global warming. The carbon stored in long lived products such as the lumber in housing continues to increase providing a growing pool of stored carbon hence some contribution to reducing the causes of global warming (Bowyer et al 2002, Bowyer 2001). However, not harvesting or even delaying the harvest of wood for products contributes to the substitution of steel and concrete which is fossil fuel intense, increasing carbon emissions and the contribution to global warming. I have attached a short fact sheet and appropriate references that should help to correct the record on this point.

The Impact of Runoff from Harvest Units Depends Upon Many Factors

Testimony presented at the hearing also inferred that runoff from harvest units (clearcuts) dramatically increased runoff during the event, thus increasing erosion, and reducing water quality. While I do not pretend to be an expert in this area I know it is a complex question and asked a PhD Candidate that has been doing research in this area to respond. I have attached his comments. As you will note, the issue is complex with many more considerations important than were implied by the prior testimony.

While it is quite appropriate that DNR should be using the best science for managing the forest with sustainability objectives in mind, that frequently requires understanding the issues in considerable depth. We are more than happy to provide the results of relevant research and consultation on the development of alternative plans if that would be of assistance.

Bruce Lippke
Director, Rural Technology Initiative
College of Forest Resources
University of Washington
& President, CORRIM

Attachments:

- (1) DNRHCP Impact Fact Sheet
- (2) Carbon Fact Sheet
- (3) Rain runoff question and response

References:

- Bare, B. Bruce, B. R. Lippke, W. Xu. 2002. "Cost Impacts of Management Alternatives to Achieve Habitat Conservation Goals on State Forest Lands in Western Washington." *Western Journal of Applied Forestry*, 15(4) 2002. Pp217-224.
- Bare, B. Bruce, Bruce Lippke, Weihuan Xu, Chadwick Oliver, Jeffrey Moffett, Thomas Waggener. 1997. *Demonstration of Trust Impacts From Management Alternatives To Achieve Habitat Conservation Goals on Washington Department of Natural Resources Managed Lands*. College of Forest Resources, University of Washington.

- Bare, B. Bruce, B. R. Lippke, W. Xu. 2000. "Equitably Treating Individual Washington State Forest Trusts through Consolidated Management: A Proposed Conceptual Approach." *Natural Resources Journal* Summer 2000, Vol. 40, No. 3. p 479-497.
- Bowyer, Jim, David Briggs, Bruce Lippke, John Perez-Garcia, Jim Wilson. 2002. *Life Cycle Environmental Performance of Renewable Industrial Materials: CORRIM Phase I Interim Research Report*. CORRIM Inc. (in care of College of Forest Resources, University of Washington). approx 400pages
- Bowyer, Jim, Bruce Lippke, Wayne Trusty, David Briggs, Jamie Meil, Cynthia West, Leonard Johnson, Bo Kasal, Mike Milota, Paul Winistorfer, Jim Wilson. 2001. *CORRIM: A Report of Progress and a Glimpse of the Future*. *Forest Products Journal*, October 2001. Vol. 51, No. 10. Pp10-22.
- Carey, Andrew, Bruce Lippke, John Sessions. 1999. *Intentional Ecosystem Management: Managing Forests for Biodiversity*. *Journal of Sustainable Forestry* Vol. 9.
- Carey, Andrew B., C. Elliott, B.R. Lippke, et al. 1996. *Washington Forest Landscape Management Project—A Pragmatic, Ecological Approach to Small-Landscape Management*. Publication by Washington State Dept. of Natural Resources and the team members of the Washington State Landscape Management Project. Olympia, WA.
- Lippke, B.R., B. Bruce Bare, Weihuan Xu, Martin Mendoza. 2002. *An Assessment of Forest Policy Changes in Western Washington*. *Journal of Sustainable Forestry* Vol. 14(4)
- Lippke, Bruce R., J. Sessions, A. B. Carey. 1996. *Economic Analysis of Forest Landscape Management Alternatives: Final report of the working group on the economic analysis of forest landscape management alternatives for the Washington Forest Landscape Management Project*. Special Paper 21, CINTRAFOR, College of Forest Resources, Univ. of Washington, Seattle, WA. 157 pp.

Table 1: Analysis of hydrologic maturity in the Lake Whatcom Watershed. Conditions on private lands are assumed to remain unchanged in the future. Non-forested lands in the watershed are mostly residential and all of these lands are hydrologically immature. Based on information in the PDEIS and in the literature, forest lands less than 40 years of age are considered hydrologically immature. Private forest lands are typically managed on a 50 year rotation so, 4/5ths of these lands are treated as hydrologically immature. Acres in each ownership class are from Figure 1, Page 18 of PDEIS. Current % DNR lands <40 years of age are from Table 3, page H-4 of the PDEIS Appendices. Regeneration harvest acreage are from Appendix D-PDEIS-3.

	Private		Private		DNR		PDEIS Alternatives				
	Non-forest	Forest	Non-forest	Forest	Current		Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
Acres in Watershed	9704	7334			14296						
% of Watershed (A)	31	23			46						
Acres Planned for Regeneration Harvest/yr							195	89	43	0	0
Total Acres <=40 yrs of age at full implementation							7800	3560	1720	0	0
% Ownership class hydrologically immature (B)	100	80			15		54.6	24.9	12.0	0.0	0.0
% Watershed hydrologically immature (A * B)	31	18.4			6.9		25.1	11.5	5.5	0.0	0.0
Total % of Watershed Hydrologically Immature					56.3		74.5	60.9	54.9	49.4	49.4

Table 2: Same as Table 1 except harvest acreage includes both regeneration harvests (clearcuts) plus thinning.

	Private		Private		DNR		PDEIS Alternatives				
	Non-forest	Forest	Non-forest	Forest	Current		Alt. 1	Alt. 2	Alt. 3	Alt. 4	Alt. 5
Acres in Watershed	9704	7334			14296						
% of Watershed (A)	31	23			46						
Acres Planned for All Harvest/yr (Reg. + Thinning)							255	148	91	29	26
Total Acres <=40 yrs of age at full implementation							10200	5920	3640	1160	1040
% Ownership class hydrologically immature (B)	100	80			15		71.3	41.4	25.5	8.1	7.3
% Watershed hydrologically immature (A * B)	31	18.4			6.9		32.8	19.0	11.7	3.7	3.3
Total % of Watershed Hydrologically Immature					56.3		82.2	68.4	61.1	53.1	52.7

From: "Jamie K. Donaldson" <jamiek@fidalgo.net>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Mon, Oct 28, 2002 1:11 PM
Subject: PDEIS Whatcom

Greetings from Bellingham:

I wish I had the time to be an expert on the important environmental issues facing the Lake Whatcom watershed. I am, however, a taxpayer and consumer of the water in the lake reservoir. And a strong supporter of money for public schools. As you are in the process of making decisions regarding the logging and landscape plan for the watershed, I wish to offer the following input:

- 1) Clearcutting should not be an option in any part of the watershed, nor anywhere else in our state for that matter. The environmental damage from clearcutting is too high a price to pay for our lumber needs. Sustainable logging methods are the sensible, responsible way of doing business. I would pay more for lumber harvested via sustainable methods.
- 2) No new logging roads should be constructed in the watershed and old roads should be removed. The erosion from road construction ends up in our drinking water. This is not acceptable. I would support state initiatives to put people to work removing old logging roads.
- 3) Buffers should be wide enough to protect unstable areas, slopes, and any flowing water in the watershed.

I urge you to implement a logging and landscape plan that considers the unique importance of the Lake Whatcom watershed where too much logging and development have already impaired water quality.

Thank you,

Jamie K. Donaldson
218 Bayside Road
Bellingham, WA 98225

From: stephanie thompson <sdawn0@yahoo.com>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Mon, Oct 28, 2002 1:33 PM
Subject: Lake Whatcom Public Comment

Hello,

I have been following the Lake Whatcom management plans for the past year. I am a Cherokee student at Northwest Indian College and have concerns about cultural resources in the Lake Whatcom area. I have studied environmental protection of native forests and cultural resources and am writing to encourage the DNR to strongly consider options 3, 4 and 5 for the management plan. These seem to be the most responsible when managing public lands and drinking water.

These are the only options that address cultural resources, which is at the heart of preserving our native forest resources. Please consider all the values of the forest, including cultural values.

Sincerely,

Stephanie Thompson

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EH 23

From: <Hillengass@aol.com>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Mon, Oct 28, 2002 2:48 PM
Subject: PDEIS Comments - Lake Whatcom

Attn: William J. Wallace.

Attached you will find a "Word Document" which is my letter to you providing my input, as a concerned citizen, on the PDEIS you had out for public comment.

You may share this document with any others you deem appropriate.

If you have any problems opening or reading the attachment, please contact me at (360) 527-2929.

Lance N. Hillengass

Lance N. Hillengass
472 Sudden Valley
Bellingham, WA 98229-4810
Tel: (360) 527-2929
Email: Hillengass@aol.com

October 28, 2002

William J. Wallace
DNR Northwest Manager
919 N. Township Street
Sedro-Woolley, WA 98284

RE: PDEIS Public Comments
Lake Whatcom Landscape Plan

Dear Mr. Wallace:

I wish to thank you, your staff and other individuals who prepared this preliminary document, on a very complex issue, and presented it to interested citizens at the public meeting held on October 10, 2002.

Since I only relocated to Washington in 2002, specifically to the Sudden Valley Development, I did not have any previous information on the plan. I note that the PDEIS was released on September 13, 2002, however, the first public meeting was not held until October 10th, where detailed information was presented to the public. This left only 18 days, out of the original 45 day comment period, to research issues; have discussions with other State Agencies and Whatcom County and Bellingham officials. I do not believe this provided the public with ample opportunity to make detailed comments, therefore, my comments must remain general in nature. I would hope the general public has the opportunity to comment on the DEIS when completed, and that a public meeting be held as soon as possible once the document is released.

COMMENTS:

1. It is very difficult to make a recommendation on the DNR proposal, without knowing what the intent of the private forest land owners are. I am specifically concerned with the 722 acres owned by Trillium Corporation, albeit, 180 acres are not classified as forest land. It would not surprise me for Trillium to attempt to trade these 180 acres for other blocks of forest land or purchase additional forest land from the existing owners. This information was obtained from the December 2001 issue of the Whatcom Watch. Trillium has not proved to be a "responsible corporate citizen", on environmental issues when selecting the loggers to do the actual logging operation. A relative of mine performed clear cutting for Trillium, in Whatcom County, in the early 90's and told me that the manner in which they were compensated provided no incentives to show any concern for environmental issues. If the loggers had attempted to concern themselves with other issues it would have had a negative impact on their individual compensation.

2. My major concern is protecting the drinking water in Lake Whatcom as well as the air quality of the area. As you are aware, the "old growth" trees are very beneficial in keeping a portion of the carbon dioxide from reaching the atmosphere. Trees in general, but specifically the larger ones are extremely beneficial to the watershed which eventually reaches Lake Whatcom as is any change to the ground area and root systems in general. I am also concerned about the esthetics of the Lake Whatcom area as well as that of all forest lands publicly or privately owned. I am opposed to any "clear cutting", whatsoever, unless it is on specifically grown tree farms. I also believe that any logging process must not include "old growth" trees (defined as trees older than 35 years). In a watershed area, which is a major factor in protecting the water flowing into a reservoir, no logging operations other than limited thinning should be permitted. If thinning is done, it should be done for a specific purpose (such as a wildfire deterrent or to allow the larger trees more growing space; I know the Bush Administration believes fires are fine for the management of forests, however, they may wish to rethink that position after the tragedies which occurred this summer) and if allowed, the thinning should be done by helicopter to minimize the impact on the surrounding forest areas.
3. Of the alternatives that you presented, I am in favor of Alternative #4, as a compromise, however, this will not be beneficial to the timber industry and may not be economically feasible to any loggers on such a limited basis.
4. You and others, within the DNR, have expressed concern about your fiduciary responsibility for the generation of revenue for the Trusts. In my discussions, with Whatcom County councilmen, they seem to see your responsibilities differently. I was specifically told that your primary responsibility was to manage the lands to benefit existing Whatcom County residents and future generations thereof. If this does not return revenue to the Trusts, however, it benefits Whatcom County then you are fulfilling your fiduciary responsibility. If revenue is returned to the trusts, so much the better, however, not to the detriment of Whatcom County residents.
5. I am not that familiar with the cultural concerns of the Indian Tribes on this property. I do understand that any physical aspects are not "renewable resources" and I believe you MUST reach agreement with them, unless you desire to have the Federal Government arbitrate this issue.
6. In my various travels throughout the United States, I have been most impressed by the manner in which the forests and watershed areas surrounding Lake Tahoe are managed. I believe Washington State should look at this as a "blueprint" for managing forest lands in Washington.
7. Some way needs to be found to acquire the forest lands owned by Trillium if an effective plan is to be developed for Lake Whatcom. Be this an outright purchase by the State or Federal government or a combination of a trade and purchase, which does not impact a watershed area.
8. The State Department of Fish and Game has apparently expressed an interest in utilizing a portion of the area, however, I do not see any definitive discussion of this in your report.
9. The majority of the land, which you address in your report, is "virgin" territory with a large portion in "old growth" trees. This needs to be protected for future generations to come. Where in Northwest Washington can I go to see 300+ year

old trees? The various States along with the Federal Government have made mistakes in the past by letting "old growth" trees be converted into lumber. I hope a state as progressive as Washington, does not make similar mistakes in the future. I appreciate that by protecting these lands from aggressive logging programs it will have a near term negative impact on the economy in certain specific areas, however, the long term benefits far outweigh this. At the public meeting, a representative for the logging industry indicated that lumber was needed by the United States (he did not mention the amount that the US actually exports) and if we did not obtain it locally, we would have to import lumber from third world countries and their people would suffer. That is a decision for the third world countries to make. If they wish to sell lumber on the open market, and the US declines to purchase it, another country will. I do not believe this argument holds itself up to even the slightest amount of scrutiny.

- 11. My personal opinion is that this entire property should be turned into a State or National Park limited to DAY use only.** Picnic facilities (without cooking facilities), hiking trails and stream fishing would be permitted. Parking facilities would be off of existing logging roads, which would require improvement, however, no new roads would be constructed. Hiking trails would be improved/created by the park rangers. Only self contained restroom facilities would be provided for public use throughout the park, which would blend into the environment. The only structure that I would envision being built inside the park would be for the use of the park rangers, including an exhibit area and auditorium where the rangers could teach the population, young and old, about the environment and the different species of plants and animals native to the area. This is the only facility that would be allowed to have a septic system. One will argue that the expenses associated with such a conversion would be prohibitive. I submit that the increased revenues that the merchants of Whatcom County and the County itself would derive from tourism would far outweigh the expenses after the initial establishment. The park could also generate a limited amount of revenue by charging daily use fees or selling annual passes.

Respectfully submitted:

Lance N. Hillengass

EM 24

From: "Becky Kelley" <becky@wecprotects.org>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Mon, Oct 28, 2002 3:03 PM
Subject: WEC Comments on Lk Whatcom PDEIS, file #02-100

sent via email

October 28, 2002

SEPA Center

Washington Dept. of Natural Resources

1111 Washington Street SE
MS: 47015

Olympia, WA 98504-7015

Re: File No. 02-100 (Lake Whatcom PDEIS)

To the SEPA Center:

Please accept the following and attached comments on behalf of the Washington Environmental Council, regarding the Lake Whatcom Preliminary Draft Environmental Impact Statement.

First, we wish to support the Lake Whatcom PDEIS comments of the North Cascades Audubon Society, a WEC member organization based in Bellingham, whose members have local knowledge of the Lake Whatcom watershed and the provisions needed to ensure the health of the lake and the long-term viability of state forestry operations in the watershed.

Second, the Washington Environmental Council is concerned that DNR is proposing to use *Tier 3* as the No Action alternative, when Tier 3 does not represent DNR's current forestry procedures. We have attached a chart detailing ways in which the August 1, 2002 Tier 3 modeling assumptions differ from the Forest Resource Plan, Habitat Conservation Plan and/or current procedures, and thus cannot serve as the basis for the No Action alternative required in the EIS. We raised similar concerns in the context of the sustainable harvest calculation, and it appears that DNR is attempting to answer those concerns with a No Action alternative that models current practices, and a separate alternative (Alternative 1) that includes

EH24

policy or procedure changes proposed by the department, but not yet enacted. Please see our April 10, 2002 SEPA scoping comments on the westside sustainable harvest calculation for further discussion of the legal requirement for a No Action alternative that accurately represents the Department's current management.

The Lake Whatcom watershed provides the Department of Natural Resources with a challenge and an opportunity: to embrace more sustainable forestry practices that will garner public support, protect drinking water and the natural environment, and enable DNR to continue viable commercial forestry operations in the watershed. How these issues play out in the Lake Whatcom watershed will be important far beyond the watershed boundaries and we look forward to continuing to participate in this conversation with the Department and the Board of Natural Resources, as the process moves ahead.

Thank you for the opportunity to comment.

Sincerely,

Becky Kelley

Policy Associate

Washington Environmental Council

206-622-8103

becky@wecprotects.org

Attachment: WEC Analysis of 8-1-02 Tier 3 Modeling Assumptions

Becky Kelley

Policy Associate

Washington Environmental Council

615 2nd Avenue, Suite 380

Seattle, WA 98104

ph 206-622-8103

fax 206-622-8113

email: becky@wecprotects.org

website: www.wecprotects.org

EM24

CC: "Marcy Golde" <marcy@golde.org>

sent via email

>

October 28, 2002

SEPA Center

Washington Dept. of Natural Resources

1111 Washington Street SE
MS: 47015

Olympia, WA 98504-7015

Re: File No. 02-100 (Lake Whatcom PDEIS)

To the SEPA Center:

Please accept the following and attached comments on behalf of the Washington Environmental Council, regarding the Lake Whatcom Preliminary Draft Environmental Impact Statement.

First, we wish to support the Lake Whatcom PDEIS comments of the North Cascades Audubon Society, a WEC member organization based in Bellingham, whose members have local knowledge of the Lake Whatcom watershed and the provisions needed to ensure the health of the lake and the long-term viability of state forestry operations in the watershed.

Second, the Washington Environmental Council is concerned that DNR is proposing to use Tier 3 as the No Action alternative, when Tier 3 does not represent DNRs current forestry procedures. We have attached a chart detailing ways in which the August 1, 2002 Tier 3 modeling assumptions differ from the Forest Resource Plan, Habitat Conservation Plan and/or current procedures, and thus cannot serve as the basis for the No Action alternative required in the EIS. We raised similar concerns in the context of the sustainable harvest calculation, and it appears

that DNR is attempting to answer those concerns with a No Action alternative that models current practices, and a separate alternative (Alternative 1) that includes policy or procedure changes proposed by the department, but not yet enacted. Please see our April 10, 2002 SEPA scoping comments on the westside sustainable harvest calculation for further discussion of the legal requirement for a No Action alternative that accurately represents the Departments current management.

The Lake Whatcom watershed provides the Department of Natural Resources with a challenge and an opportunity: to embrace more sustainable forestry practices that will garner public support, protect drinking water and the natural environment, and enable DNR to continue viable commercial forestry operations in the watershed. How these issues play out in the Lake Whatcom watershed will be important far beyond the watershed boundaries and we look forward to continuing to participate in this conversation with the Department and the Board of Natural Resources, as the process moves ahead.

Thank you for the opportunity to comment.

Sincerely,

Becky Kelley

Policy Associate

Washington Environmental Council

206-622-8103

becky@wecprotects.org

Attachment: WEC Analysis of 8-1-02 Tier 3 Modeling Assumptions

Becky Kelley

Policy Associate

Washington Environmental Council

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1

WEC ANALYSIS OF THE 8-1-02 Tier 3 MODELING ASSUMPTIONS

Many differ from FRP, HCP, or current procedures, and thus Tier 3 **cannot be the no action alternative** for the Lake Whatcom PDEIS.

Summary of Modeling Assumptions

WEC statement of policies and procedures in FRP, HCP or Current Procedures

Citation of sources

ISSUE	<u>CURRENT REQUIREMENTS,</u> <u>NOT BEING USED IN TIER 3.</u>
Tier 1 – Rotation age	<i>Modeling Assumption has dropped Rotation Age.</i> FRP calls for 60 year rotation. FRP, No. 4 says: "In Western Washington, for instance, the average rotation age will be 60 years."
	TIER 3
Missing or unmapped wetlands	<i>Modeling Assumptions have dropped this issue from consideration.</i> Mapping of forested wetlands is severely lacking, and clearly needs to be considered to meet the protection required in HCP.
44. Wetlands: Width of wetland buffers	<i>Modeling Assumptions make no mention of protection of forested wetlands.</i> Protection of forested wetlands is part of HCP wetlands requirements. (HCP, IV.70)
45. Wetlands: Timber harvest in wetlands and wetland buffers	<i>Modeling Assumption calls for silvicultural treatments, roads and harvest systems which are the same as Tier 2, except that minimum basal area of 120 square feet per acre applies to 90% of areas.</i> No harvest or roads assumptions are included in Tier 2. The HCP applies the limitations to 100%, not 90%, of the land. "Timber harvest within the forested portions of forested wetlands and wetland buffer areas shall be designed to maintain and perpetuate a stand that: (1) is an wind-firm as possible; (2) has large root systems to maintain the uptake and transpiration of groundwater; and (3) has a minimum basal area of 120 square feet per acre." (HCP, IV.70) <i>Modeling Assumption makes no mention of mitigation for road building.</i> All road building requires 1:1 mitigation. "No road building shall occur in wetlands or wetland buffers without mitigation. Roads constructed within wetlands or wetland buffers shall require on-site and in-kind equal acreage mitigation." (HCP, IV, 69, 70) PR 14-004-110, May, 2000. [Not the same silvicultural treatments or roads as in Tier 2.] <i>Modeling Assumption makes no mention of protection of small seeps and wetlands on unstable slopes.</i> Small seeps and wetlands on unstable slopes require protection. Seeps and wetlands <0.25 acres, shall be protected if on unstable slopes (HCP; IV.69).

2

46. Unstable Slopes: Deep seated	<p><i>Modeling Assumption calls for 70% clearcut and 30% partial cut.</i></p> <p>The requirements are no delivery of sediment and natural rates of input of large wood and nutrients.</p> <ul style="list-style-type: none"> - HCP states: "If, in the future, timber harvest and related activities can be accomplished without increasing the frequency or severity of slope failure and without severely altering the natural input of large woody debris, sediment and nutrients to the stream network, then such activity shall be allowed." (HCP, IV.62) - Current procedure states: "I am granting to the Regional Manager the authority to exercise discretion in allowing management activities to take place on areas with characteristics of deep-seated historic landslides where there will be no deliverability of sediments into fish-bearing streams or an alteration of natural input of large woody debris or nutrients to a stream network.... This guidance is not to excuse or forgo adherence to the HCP or the Forest Practices rules." (Amendment to Interim Procedure PR14-004-050)
48. Unstable slopes: Shallow/rapid	<p><i>Modeling Assumption calls for 30% clearcut and 70% partial cut.</i></p> <p>The HCP requires are no delivery of sediment and natural rates of input of large wood and nutrients.</p> <ul style="list-style-type: none"> - HCP states: "If, in the future, timber harvest and related activities can be accomplished without increasing the frequency or severity of slope failure and without severely altering the natural input of large woody debris, sediment and nutrients to the stream network, then such activity shall be allowed." (HCP, IV.62) - Current procedure states: "Management activities, other than required roads, the potential to increase the frequency or severity of mass-wasting events, will be prohibited on areas of instability" (PR 14-004-050)
49. Spotted owl: NRF definition: sub- mature habitat	<p><i>Modeling Assumption calls for BA of 240 sq.ft./Acre = sub-mature habitat</i></p> <p>This assumption will overestimate the occurrence of NRF habitat. All the elements of NRF habitat must be accounted for in classifying lands as NRF habitat. If they cannot be directly modeled, they must be estimated.</p>
50. Spotted owl: Timber harvest from NRF habitat devoted to providing target	<p><i>Modeling Assumption calls for thinning to maintain habitat.</i></p> <p>Both current and draft procedure call for only <u>enhancement</u> activities.</p> <p>"conduct only habitat <u>enhancement</u> activities" (PR 14-004-120)</p>
51. Spotted owl: Dispersal definition	<p><i>Modeling Assumption calls for BA of 160 sq.ft./Acre = sub-mature habitat</i></p> <p>This assumption will overestimate the occurrence of NRF habitat. All the elements of NRF habitat must be accounted for in classifying lands as NRF habitat. If they cannot be directly modeled, they must be estimated.</p>
52. Spotted owl: Timber harvest from Dispersal habitat devoted to providing target	<p><i>Modeling Assumption calls for thinning to maintain habitat.</i></p> <p>Both current and draft procedure call for only <u>enhancement</u> activities.</p> <p>"conduct only habitat <u>enhancement</u> activities" (PR 14-004-120)</p>
53. Spotted owl: 300- acre nest patches and buffers	<p><i>Modeling Assumption calls for locating patch and buffer in either designated buffer area or 0.7 mi. radius.</i></p> <p>Patches and buffers must be entirely within 0.7 mi. radius.</p> <p>HCP says: "The entire 500-acre patch shall be contained entirely within a circle of 0.7 mile radius." (HCP, IV.6)</p>

3

54. Spotted owl: Timber harvest in nest patch buffers	<p><i>Modeling Assumption offers two options: Option 1: Locates nest patch buffer within 0.7mi. radius, or Option 2 (Recommended) locates 200 acre buffer within the designated nest patch buffer areas surrounding the nest patch.</i></p> <p>Patch and buffer must <u>all</u> be within 0.7 mi. radius.</p> <p>HCP says: "The entire 500-acre patch shall be contained entirely within a circle of 0.7 mile radius." (HCP, IV.6)</p>
55. Critical Habitats: Listed species, Species of Concern, Uncommon Habitats	<p><i>Modeling Assumption calls for no additional assumptions or protections for critical habitats.</i></p> <p>Specific leave restrictions are listed for uncommon habitats.</p> <p>"For species that rely on uncommon habitats or habitat elements, additional measures are necessary to meet the conservation objectives of the HCP. These measures specifically address talus, caves, cliffs, oak woodlands, large snags, and large, structurally unique trees. ... Large snags and large, structurally unique trees are essential habitat elements..." (HCP, IV.151-158), PR 14-006-090, 5/00; TK 14-001-010</p>
56. Marbled murrelet: Habitat identification	<p><i>Modeling Assumption calls for all occupied sites to be simulated at 120 acres.</i></p> <p>Research is not complete and development of final conservation strategy has not even started. What is the basis for this number?</p> <p><i>Modeling Assumption calls for releases of marginal habitat for harvest with some stipulations.</i></p> <p>Stipulations on release of unoccupied habitat are significant, but not all stated. Are they being used in modeling?</p> <p>Unoccupied habitat will be released: "and after harvest, at least 50% of the suitable marbled murrelet habitat, on DNR-managed lands in the WAU would remain" (HCP; IV.40)</p>

4

<p>57. Marbled murrelet: Timber harvest in habitat</p>	<p><i>Modeling Assumption states: "Currently mapped occupied sites and reclassified habitat within (and beyond) a ½ mile radius of an occupied site are <u>deferred indefinitely until year 2007</u> from all simulated silvicultural activities."</i></p> <p>How can sites be deferred indefinitely until 2007? What is intended? "Restrict all management activities that will negatively impact suitable marbled murrelet habitat (i.e., any portion of an area identified as a "suitable habitat block"). (PR 14-004-320, 11/1999)</p> <p><i>Modeling Assumption states: "All occupied sites and reclassified habitat in Southwestern Washington are <u>indefinitely deferred until year 2007</u> from simulated silvicultural activities."</i></p> <p>How can sites be deferred indefinitely until 2007? What is intended? "Within Southwest Washington, surveyed, unoccupied habitat will not be released for harvest unless (a) the long-term plan (see Step 5 below) for the applicable planning units has been completed or, (b) at least 12 months have passed since the initiation of negotiations of the draft long-term plan without completion of those negotiations." (HCP; IV.40) [Negotiations for the long term conservation strategy have not yet begun.]</p> <p><i>Modeling Assumption states: "After year 2007, a target is set such that 1/3 of all simulated occupied and reclassified habitat (by WAU) with the highest QMD is deferred from all simulated harvests. It is assumed that only ecosystem restoration and impacts of accessibility may occur in these deferred areas."</i></p> <p>Negotiations for the long term conservation strategy have not yet begun. What is the basis of this number? "Step 5. After Steps 1-4 [Identification of suitable habitat blocks, Habitat Relationship Studies, release of marginal habitat, survey of higher quality habitat and release of unoccupied habitat beyond 0.5 miles of occupied site and keeping at least 50% of suitable habitat] are completed for each planning unit, the information obtained during these and other research efforts shall be used to develop a long-term conservation strategy for marbled murrelet habitat... All decisions made in Steps 1-4 above shall be reviewed as part of this process. Once all individual planning unit plans are complete, a comprehensive review shall be conducted and modifications made if required." (HCP, IV.40, 42-44) "The long term strategy would address such factors as developing habitat where gaps exist, developing or maintaining replacement habitat, and would protect the vast majority of occupied sites." (HCP, IV.44)</p>
<p>58. Rain-on-snow areas; Hydrologic maturity</p>	<p><i>Modeling Assumption states that three options are proposed for identifying the sub-basins where the field delineation has not been done.</i></p> <p>Only Option 3, the recommended option, provides an interim plan, which meets the HCP and the required procedures.</p> <p>The HCP says: "Two-thirds of the DNR-managed forest lands in drainage basins in the significant rain-on-snow zone shall be maintained in forest that is hydrologically mature with respect to rain-on-snow events. ...A method for delineating the boundaries of drainage basins will be described in agency procedures to be developed for this HCP." PR14-004-060 Assessing Hydrologic Maturity, 8/99 describes the six step process required by the HCP.</p>

5

59. Wildlife reserve trees	<p><i>Modeling Assumption calls for "...at least 6% of the areas of each stand with the highest QMD is indefinitely deferred from regeneration harvest."</i></p> <p>The Department has proposed a new procedure for legacy trees, but it has not yet been implemented. The current procedure calls for 7 to 40% in NRF, 7 to 20% in dispersal, and 7% in multi-resource stands. (PR14-006-090, 5/00)</p>
60. Land-base Classifications	<p><i>Modeling assumptions so far only address transition lands.</i></p> <p>Modeling Assumption has policies, which differ from FRP. 117,350 acres of marginal lands are totally omitted. Old Growth Research Areas are 2000 acres, not the 200 shown. The 15,000 acre mature stand deferral in the OESF expires 15 years after FRP adoption in July, 2007, not July, 2005.</p> <p>Forest Resource Policy 3 says: "Off-base lands are not used in the calculation of the sustainable harvest. ...These land classifications are not permanent. ...19,400 acres are deferred from harvest and considered off-base." These include:</p> <ul style="list-style-type: none"> • "15,000 acres of mature natural stands of timber (generally defined to mean trees older than 160 years) in the proposed Olympic Experimental State Forest. the deferral period for this acreage is 15 years" [15 years from July, 1992 is July 2007—not 2005, as in the Modeling Assumptions paper.] • "2000 acres [not 200 acres] in Old Growth Research Areas for the duration of the Forest Resource Plan" (ten years). • "...deferred indefinitely approximately 2,400 acres of gene pool reserves (native seed sources)." • Regarding "transition lands," FRP Policies 1 & 2 recognize that such lands will be replaced with productive forestlands. <p>"Off-base lands ... include areas which cannot produce another timber crop within 80 years of harvest and properties on which harvesting has been deferred because of risk to public resources." These Low Productivity (no crop in 80 years), marginal lands were in the FRP, No. 3, pp 16-17.</p>
62. Green-up of Harvest Areas	<p><i>Modeling Assumptions says: "There is implied flexibility with the 100-acre practice."</i></p> <p>However, the exceptions are clearly limited in FRP.</p> <p>"Exceptions to this policy include: Alternatives which are less environmentally detrimental. ...Special needs, such as areas which are damaged by fire, insect, disease or windthrow (salvage cutting), or for land exchange agreements."</p>
64. Spotted owl: Previously regulated owl circles	<p><i>Modeling Assumption has two options: Option 1 calls for release of 61 owl circles starting in 2002. Option 2 calls for release of 61 owl circles starting in 2007.</i></p> <p>Option 1 violates the current Spotted Owl management procedure. (PR 14-004-120, 8/99).</p>



October 28, 2002

Barbara MacGregor
DNR SEPA Center
1111 Washington Street SE
P.O. Box 47015
Olympia, WA 98504-7015

RECEIVED
OCT 28 2002
STATE LANDS DIV

RE: SEPA Comments On Lake Whatcom Landscape Plan PDEIS by AFRC

Dear Ms. MacGregor:

Thank you for the opportunity to comment on the Lake Whatcom PDEIS.

The American Forest Resource Council (AFRC) is an association of the forest industry that represents numerous Department of Natural Resources (DNR) Timber Purchasers in Washington, Oregon, California, and Idaho. The DNR Timber Purchasers Committee is a standing committee of AFRC; the committee and its staff provide the principal interaction among DNR timber purchasers, DNR and the Board of Natural Resources (Board).

AFRC members have a vital interest in the on-going and future management of DNR managed trust lands in the Lake Whatcom watershed. All softwood lumber mills identified in the Commercial Timber Assessment (PDEIS, Appendix Section O) currently are members of AFRC. AFRC appreciates this opportunity to provide substantive comments on the Lake Whatcom DNR Landscape Plan Preliminary Draft Environmental Impact Statement (PDEIS) under the State Environmental Policy Act (SEPA). Our specific comments follow:

Active Forest Management Is The Answer, Not The Problem in Lake Whatcom. An EIS Alternative That Maximizes Trust Revenues While Maintaining Current Resource Protections Should Be Added

Legislation affecting Lake Whatcom, and PDEIS, is rooted in activist opposition to a single proposed trust land timber sale and concern over a poorly designed forest road. A subsequent Board tour clarified that the halted sale required the timber sale purchaser to reconstruct the road to current forest practices standards. Nonetheless, activists pressured local elected officials, and the previous Commissioner of Public Lands to pass legislation that resulted in the current PDEIS. Water quality and public safety appear to be surrogates for opposition to land management activities on DNR managed trust lands.

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Water quality concerns that served as the basis for legislation empowering the Lake Whatcom DNR Landscape Planning Committee (Committee) were legitimate but misdirected. The Department of Ecology is on record as saying, "*(p)roperly managed commercial forestland has been recognized as the most benign active land use for watershed protection for some time.*" The Department of Heath said, "*(i)t is our understanding that very few of the potential contaminant sources identified in the Source Water Protection Plan for Lake Whatcom could originate from State Forest Lands or DNR activities*" (PDEIS Appendices).

Whatcom Lake has serious water quality issues that should be addressed by Whatcom County and agencies that deal with coliform, nutrient loading and other contaminants. Properly conducted active forest management is consistent with watershed protection and can help mitigate problems uncovered during DNR's landscape management planning.

The PDEIS should include one or more Alternatives, which optimize trust revenues and economic benefits while providing reasonable watershed protection by DNR. To the extent feasible, the PDEIS should highlight water quality problems discovered during the forest management investigations.

An EIS Alternative Is Needed That Evaluates Partial or Total Divestiture (or Repositioning) of Trust Lands to Assets Outside the Lake Whatcom Watershed

AFRC supports maintenance of DNR's managed forest landbase. The PDEIS should address sale or trade of some or all lands in the basin. The consideration for the sale or exchange of trust lands is imbedded in each PDEIS Alternative under Objective 18: Consider Other Revenue Generating Mechanisms. This imbedded consideration is not developed as part of the PDEIS and, as such, is inconsistent with SEPA. **The EIS should include a least one Alternative that specifically describes and analyzes asset divestiture.**

As a matter of record, AFRC firmly believes most Lake Whatcom trust lands can be managed to optimize timber revenue and water quality. Two state agencies, whose business is water quality, believe forest management is the best means of protecting water quality. DNR, however, needs to substantively review divestiture as a part of the SEPA process.

Current PDEIS Alternatives Fail to Balance Social, Economic and Environmental Values; a Stated Goal of the Board of Natural Resources

The Board repeatedly has opined that they, and the public, seek to balance social, economic and environmental values (see PDEIS appendices). Alternatives #3-5 clearly fall outside these parameters. DNR lands inside the watershed have the biological capacity to generate \$3.3 million annually for trust beneficiaries, and can generate \$1.6 million annually under the Habitat Conservation Plan (HCP). Alternatives #2-5 would produce trust revenues significantly below these amounts (see below discussion). In addition, active forest management is seen as the best means of protecting Lake Whatcom's water quality. **As the Board ultimately will approve a Lake Whatcom Landscape Plan, any EIS Alternative must be consistent with the Board's stated goals and objectives. The alternatives should be rewritten to achieve such consistency.**

Alternatives #2-5 Substantially Reduce Net Present Values Without Offsetting Benefits in Water Quality, Public Safety, or Other Non-Timber Incomes

Using a 6% real discount rate, the PDEIS Financial Assessment (Appendix Section PDEIS-4) reveals substantial reductions in Net Present Value (NPV) for Alternatives #2-5 of: -\$9.7 million, -\$23.3 million, -\$23.7 million, and -\$27.3 million, respectively, when compared with forest management under Alt. 1. These reductions are for *timber revenues only* and do not include other direct and indirect local and statewide economic benefits that accrue to commercial forest operations and milling. Thus, the economic magnitude of projected NPV reductions substantially is understated. The document should reflect this fact.

The PDEIS Financial Assessment of benefits from other income opportunities deserves more discussion in the EIS, using this the following statement as a base:, *"(i)t appears highly unlikely that combined revenues from carbon sequestration, certified lumber production, and leasing of trust land for recreation activities could financially justify the choice of either of the landscape alternatives...over the reference alternative (Alternative 1)"* This essentially is the same conclusion from the recent Blanchard Mountain assessment. Discussed later is our concern that Alt. 1 accurately does not reflect "no change" conditions and should be rewritten.

The 1992 Plan, 1997 HCP, 1997 Lake Whatcom Watershed Analysis, 1997 Draft Lake Whatcom Landscape Plan, and 1998 Forest & Fish Rules, guide current DNR management inside the Lake Whatcom Watershed. The Departments of Health and Ecology both said (see above comments) that current DNR policies in Lake Whatcom adequately protect public resources. Thus, under the *Prudent Person Doctrine* of the *Trust Mandate* (1992 Forest Resource Plan), it must be asked what additional benefits accrue to either the trusts or public from even analyzing (or contemplating) alternatives that fail a reasonable cost vs. benefit analysis, and that are clearly adverse to the economic interests of the trust beneficiaries?

PDEIS Alternatives #3-5 are "unreasonable in their range" under SEPA and violate the prudent person doctrine. New alternatives must be developed to comply with the trust mandate, the prudent person doctrine, SEPA and legislative instructions.

The Blanchard Mountain Timber/Recreation Assessment Should Be Incorporated in the EIS

A new resource and recreation value study on Blanchard Mountain DNR lands confirms that timber production produces the highest economic value for state trust lands and trust beneficiaries. This information strongly suggests that multiple resource values *simultaneously* can be accommodated on Whatcom County lands adjacent to Lake Whatcom. The findings from this new assessment should be incorporated in the Draft Environmental Impact Statement (DEIS).

The PDEIS Fails to Link With DNR's On-Going Sustained Yield Process as Required by ESSSB #6731

Legislation that created the Lake Whatcom Landscape Planning Committee (ESSSB 6731) also requires in Section 1-(4) that revised management standards for Lake Whatcom should be consistent with the sustained yield established by the Board of Natural Resources. This fact is not prominent in or discussed by the PDEIS. The PDEIS alternatives do not match the seven different alternatives presently being considered by the Board of Natural Resources for all other state lands in western Washington.

EIS alternatives should be consistent with SHC alternatives including creation and evaluation of options that will achieve economic and water quality objectives.

PDEIS Management Objectives "Adopted" By The Department and Committee Should Be Reviewed For Consistency With the 1992 Forest Resource Plan and Trust Mandate

Twenty-one management objectives are identified in the PDEIS (pages 25-26). These objectives need to be reviewed in the context of the overall 1992 Forest Resource Plan (1992 Plan), in particular the Trust Mandate. For example, there is no explicit management objective in the PDEIS that provides for maintaining or increasing revenues from timber production to provide sustainable income to trust beneficiaries. This is a glaring omission in PDEIS objectives.

Forest Plan Policy #16 (Landscape Planning) provides for the establishment of overall landscape management objectives; this policy explicitly states that participation from outside professionals in the fields of road engineering, forestry, and economics should be encouraged. These disciplines were conspicuously absent from the Committee (See below discussion), and this omission is reflected in the deficiencies present in the limited range of alternatives presented in the PDEIS.

The discussion of PDEIS alternative and management objective primacy on page 27 is completely devoid of any discussion (or apparent acknowledgement) of the Trust Mandate. The 1992 Plan provides clear guidance on this point. Page B-1 of the 1992 Plan states, *"The question of balancing greater environmental protection and trust income should be approached from four perspectives: 1) the prudent person doctrine; 2) undivided loyalty to the trust beneficiaries; 3) intergeneration equity, and 4) the problem of foreclosing future options."* The EIS needs a thorough discussion of how each EIS Alternative helps DNR and the Board fulfill the Trust Mandate.

Private Foresters and Knowledgeable Stakeholders Were Excluded From the PDEIS

A well-intended process, albeit sanctioned on a mistaken premise, was co-opted by special interests when knowledgeable forest industry professionals and adjacent landowners were excluded from Committee participation. We doubt the legislature had this in mind when they passed ESSSB 6731. This action likely violates the bill's intent; further, it violates the Trust Mandate and Forest Resource Policy 17.

FRP Policy 17 states, *"The Department will solicit comments from interested parties, including local neighborhoods, tribes and governmental agencies when preparing landscape-level plans."*

Discussion

As part of the landscape-level planning effort, the department will consider information from public entities, adjacent landowners and other interested parties.

The department will attempt to integrate the plans of others so that state forest lands are managed in a comprehensive manner and environmental impacts are minimized.

The department will present its planned timber harvest schedules to the public at biannual reviews."

Purchasers and landowners actively sought to take part in the Committee process and were rebuffed. We were not ignored...we were excluded from the process, which probably is illegal but certainly is inappropriate. Many of the obvious problems with the committee proposals and alternatives could have been avoided had all stakeholders been able to participate. We hope in view of that action, these comments will be taken as input that was missing in original discussions of the Lake Whatcom planning process, and that appropriate revisions will be made that reflect our belated input.

DNR Has a Legal Obligation To Seek Compensation For Altered Land Management; This Was Not Identified in the PDEIS

The law requires compensating DNR for additional watershed protections. RCW 79.01.128 states, *"In the management of public lands lying within the limits of any watershed over and through which is derived the water supply of any city or town, the department may alter its land management practices to provide water with qualities exceeding standards established for intrastate and interstate waters by the department of ecology: PROVIDED, That if such alterations of management by the department reduce revenues from, increase costs of management of, or reduce the market value of public lands the city or town requesting such alterations shall fully compensate the department(emphasis added)."* This statute should be recited and discussed in the PDEIS.

The PDEIS Alternatives Include Trust Lands Outside The Watershed

Map A-2 in the PDEIS Appendices identifies approximately 1,200 acres of state lands (7.5% of total) that are outside the hydrographic boundary of Lake Whatcom that nonetheless have been included in the PDEIS Alternatives. Applying the restrictions embodied in ESSSB #6731 to lands outside the hydrographic boundary cannot possibly have any material physical impact on water quality inside the watershed.

The EIS should exclude additional restrictions described in ESSSB #6731 from applying to trust lands outside the Lake Whatcom hydrographic boundary.

Information From Oregon State University on Water Supplies From Forest Watersheds Should Be Incorporated in the EIS

Attached to these comments is a publication entitled *Municipal Water Supplies from Forest Watersheds in Oregon: Fact Book and Catalog* prepared by Adams & Taratoot at OSU. This publication provides a concise understanding of the complex relationships between water supplies and forest management. A principal finding of the OSU study is the demonstrated need to protect water supplies from forested watersheds from the disastrous effects from wildfire.

Lake Whatcom watershed has a history of stand replacement fires. A discussion of wildfire risk and mitigation completely is absent from the PDEIS Fire Management Assessment (Appendix Section M). Although The Oregon review focuses on 30 major municipal water systems in Oregon, the information is transferable to Lake Whatcom. Key findings from this report should be incorporated into the PDEIS Water Quality Assessment (Appendix Section E).

The PDEIS Slope Stability Map Lacks Accuracy and Fails To Separately Map "Unstable Slopes" and "Potentially Unstable Slopes"

The PDEIS Slope Stability Assessment (Appendix Section G) describes a process by which a Sensitive Area Slope Stability Map was prepared (map G-2). The issue of unstable slopes vs. potentially unstable slopes is a key issue as a result of a literal interpretation of ESSSB #6731, which states, "*harvest and road construction upon potentially unstable slopes shall be carefully regulated.*" This legislation further states that road construction or reconstruction is prohibited on unstable slopes. However, the Slope Stability Assessment states "...*the specific location of stable, potentially unstable, and unstable slopes are probably not represented entirely accurately on the map.*" Furthermore, the locations of unstable slopes and potentially unstable slopes have not been mapped separately. The Assessment instead defers to definitions and field identification procedures as operational alternatives.

There is an enormous difference between unstable slopes and potentially unstable slopes. For the purpose of developing landscape alternatives and their analysis, a map is required that distinguishes between the two. They were not mapped separately and existing maps are admittedly inaccurate, both of which call into question the very basis upon which the PDEIS Alternatives were developed and analyzed. As such, the mass wasting analyses, particularly in Alternatives #2-5, are fundamentally flawed and need to be rewritten.

PDEIS Alternative #1 (No Action Alternative) Is Inaccurately Described And is Not the True No-Action Alternative

The PDEIS No-Action Alternative purportedly analyzes DNR's existing policies, procedures, legal requirements and management commitments, and supposedly is consistent with the Tier 3 alternative identified in the sustainable harvest calculation (SHC). Alternative 1, however, appears to have been developed consistent with the 21 PDEIS management objectives ("*with the advice of the Committee*") presumably absent review and approval by the Commissioner of Public Lands (Commissioner) and the Board (PDEIS pp. 28-34). Furthermore, the DNR Westside Tier 3 SHC Alternative does not contain these same management objectives.

The EIS No-Action Alternative accurately must portray DNR's existing policies, procedures, and legal requirements absent landscape-specific management objectives. PDEIS Alternative #1 should become Alternative #2 in the EIS, which incorporates appropriately reviewed (and approved) landscape management objectives. A new #1 should be developed that truly reflects current (no action) conditions.

EM 25

33-150 foot No-Cut Riparian Management Zones on Type 5 Streams Are Arbitrary, Capricious, and Exceed The Requirements of ESSSB #6731.

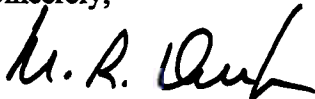
PDEIS Alternatives #2 (33-foot), and Alternatives #3-5 (150-foot), include no-cut Riparian Management Zones (RMZ's) on Type 5 streams. ESSSB #6731 simply describes that RMZ's will be established "along all streams", does not specify their widths, and certainly does not preclude active management within Type 5 RMZ's, particularly to achieve other habitat objectives. PDEIS Alternatives #2-5 do not reflect this flexibility as provided by the legislation and, thus, do not reflect a reasonable range of imbedded Type 5 RMZ alternatives as required by SEPA. Forest Practices rules, DNR's HCP, the 1992 FRP all address riparian zones and should provide guidance on riparian zones.

AFRC sincerely appreciates this opportunity to comment on the PDEIS. We look forward to working with the Department as the Lake Whatcom Landscape Planning process moves forward.

Please contact us if you have questions or require additional information.

Thank you.

Sincerely,



Malcolm R. Dick, Jr.
Washington Manager

Attachment

C/ Board of Natural Resources
Tom Partin, President, AFRC
DNR Timber Purchasers



Malcolm R. Dick, Jr.
Washington Manager

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From: "lucretia williams" <lucretia_w@hotmail.com>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Mon, Oct 28, 2002 4:21 PM
Subject: Lake Whatcom PDEIS

I am just sending some comments for the PDEIS. Lucretia I. Williams

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<http://resourcecenter.msn.com/access/plans/2monthsfree.asp>

PDEIS Comments Lucretia Williams

- I am against the use of pesticides, insecticides, and fertilizers especially around Bellingham's drinking water and in streams and creeks that supply water to fish bearing creeks. Through my studies I have found that pesticides and insecticides adversely affect not only humans, but also plants, insects and animals. Alternatives 1,2, and 3 support the use of these chemicals around Bellingham's drinking water. Therefore, I suggest that neither of these 3 alternatives be chosen.
- The use of pesticides and insecticides kill disease and insects that are native to a forest and are part of the natural process. Both insects and disease create microhabitats for other animals and create spaces for more plants and trees to grow. Although the chance of fire may increase by allowing the forest to follow it's natural process, fires are also a part of the forest's natural process.
- In alternatives 1,2,3 the use of fertilizers is condoned. Yet fertilizers are nitrogen containing compounds and these adversely affect salmon as well as other beings.
- Alternatives 1-3 suggest logging as a method of gathering income from the State Land Trust. Yet making the roads that are necessary for this practice will adversely affect the riparian zones by the increase of sediments flowing into the streams. Not only will sediments increase, but the rains will flush the chemicals that are used in logging practices into the water supply.
- Given these alternatives Alternative 4 and 5 appear to be the safest. In the PDEIS handbook the number one objective was to "Ensure no significant risk to public, health, safety and resources". From my research I find that various applications of Alternatives 1-3 will cause significant risk not only to humans, but to the environment that we live in and the animals and plants we eat as well.
- Although Alternative 5 restricts revenue to the Common School Construction Account, I believe that it is more important to have healthy drinking water and healthier streams for endangered animals. I believe that the income for the Common School Construction

Account can be found from another source rather than logging around Bellingham's water supply.

- As of yet the only solution I have to keep this area from being developed and or logged extensively is to make this area into a Research Area. It may not accrue a great deal of revenue, but most people in Bellingham I know would rather drink healthy water and eat healthy viable salmon.

Sincerely,

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EM 27

From: David Wallin <wallin@cc.wvu.edu>
To: NRBDOM1.NRBPO1(SEPACENTER)
Date: Tue, Oct 29, 2002 7:50 PM
Subject: Lake Whatcom PDEIS

Attn: SEPA Center

Please acknowledge receipt of this email.

Please find attached, an MS Word file and an MS Excell file that comprise my comments on the Lake Whatcom PDEIS. If you have any problems opening any of them, please let me know.

Sincerely,
David O. Wallin

Table 1: Analysis of hydrologic maturity in the Lake Whatcom Watershed. Conditions on private lands are assumed unchanged in the future. Non-forested lands in the watershed are mostly residential and all of these lands are hydrologically mature. Based on information in the PDEIS and in the literature, forest lands less than 40 years of age are considered hydrologically immature. Private forest lands are typically managed on a 50 year rotation so, 4/5ths of these lands are treated as hydrologically immature. Acres in each ownership class are from Figure 1, Page 18 of PDEIS. Current % DNR lands <40 years of age are from H-4 of the PDEIS Appendices. Regeneration harvest acreage are from Appendix D-PDEIS-3.

	Private Non-forest	Private Forest	DNR Current	IS Alternative Alt. 1	Alt. 2
Acres in Watershed	9704	7334	14296		
% of Watershed (A)	31	23	46		
Acres Planned for Regeneration Harvest/yr				195	89
Total Acres <=40 yrs of age at full implementation				7800	3560
% Ownership class hydrologically immature (B)	100	80	15	54.6	24.9
% Watershed hydrologically immature (A * B)	31	18.4	6.9	25.1	11.5
Total % of Watershed Hydrologically Immature			56.3	74.5	60.9

Table 2: Same as Table 1 except harvest acreage includes both regeneration harvests (clearcuts) plus thinning.

	Private Non-forest	Private Forest	DNR Current	IS Alternative Alt. 1	Alt. 2
Acres in Watershed	9704	7334	14296		
% of Watershed (A)	31	23	46		
Acres Planned for All Harvest/yr (Reg. + Thinning)				255	148
Total Acres <=40 yrs of age at full implementation				10200	5920
% Ownership class hydrologically immature (B)	100	80	15	71.3	41.4
% Watershed hydrologically immature (A * B)	31	18.4	6.9	32.8	19.0
Total % of Watershed Hydrologically Immature			56.3	82.2	68.4

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October 29, 2002

Mr. William Wallace
DNR Northwest Regional Manager
SEPA Center
Washington State Department of Natural Resources
1111 Washington Street SE
MS: 47003
Olympia, WA 98504-7003

Dear Mr. Wallace,

I appreciate the opportunity to comment on the PDEIS for DNR lands in the Lake Whatcom Watershed. The DNR is to be commended for taking the additional step of developing the PDEIS prior to releasing a DEIS. This represents a substantial body of work and a major commitment of staff time. I hope that you find my comments useful and I look forward to working with you in the future on this and other forest management issues across the state.

I had a number of concerns with the PDEIS. The time that I had available to review the document was limited so I had to restrict my comments to a few key issues. These include the following:

Lack of a true Landscape focus: I am a landscape ecologist and I have been working on forest management issues in the Pacific Northwest for over ten years. In my view, the PDEIS fails to provide a true landscape-level evaluation of management activities on the DNR lands in the Lake Whatcom watershed. Such an evaluation would require consideration of the larger context within which any proposed management activities might occur. This would involve a consideration of current and likely future activities on privately owned lands that surround the DNR-managed lands. The failure to consider these surrounding lands results in a very myopic and grossly oversimplified analysis of the impact of management activities on DNR lands. This problem is woven throughout the entire document. Two of the best examples of this are in the sections that deal with hydrologic maturity and biological diversity.

Hydrologic Maturity: As discussed in the document, it takes approximately 40 years after a timber harvest for the hydrologic function of a stand to fully recover. During this recovery phase, water yield is increased and peak flow during storm events can be much higher. These increased flows increases erosion and sediment delivery to the streams, and increases the likelihood of slope failures and debris torrents. As a general rule, areas that are hydrologically immature contribute to eutrophication of the lake, degraded water quality for human use and degrade aquatic habitat.

The PDEIS fails to provide an analysis of the current area of hydrologically immature

land in the Lake Whatcom watershed nor does the PDEIS present an analysis of how this is likely to change under the proposed alternative. Fortunately, it is possible to derive this information from the document. Lands that are not managed by DNR make up 54% of the total area of the watershed (Figure 1, page 18 of the PDEIS). 31% of the watershed is categorized as private non-forest lands that are in residential developments of various types. These residential lands include a substantial amount of impervious surfaces (roads, rooftops, sidewalks) and the remaining area includes lawns and other partial vegetation cover. Virtually all of these cover types would be categorized as hydrologically immature and it seems likely that this condition will persist indefinitely. The increased water yield from these lands results in very high delivery rates of sediment and other pollutants to the lake from these lands. Much has been written about this topic and it seems clear that pollution of the lake from these lands will continue. 23% of the watershed is categorized as private forestlands. Most private forestlands across the state are managed for timber production using rotation lengths of 50 years or less. Within the Lake Whatcom watershed, some of these private forestlands may be managed on a somewhat longer rotation and others may be managed on a somewhat shorter rotation. Some of these lands may ultimately be converted to residential use. For the purposes of this analysis, it seems reasonable to assume that these lands will continue to be managed for timber production with an average rotation length of 50 years. Given the DNR statement that stands less than 40 years of age should be considered hydrologically immature, this means that 80% (4/5ths) of these private forest lands will be maintained in a hydrologically immature status indefinitely. These hydrologically immature private lands make up a total of 49% of the total area of the Lake Whatcom watershed (see my Table 1 for calculations).

This simple analysis makes it quite clear that the DNR managed lands represent the only potential source of inputs to the lake from hydrologically mature lands. At present, 15% of the DNR lands are in stands less than 40 years of age (from Table 3, page H-4 of the PDEIS Appendices). This means that, currently, 56% of the Lake Whatcom watershed is in cover types that are hydrologically immature. The PDEIS includes projected harvest levels under each of the five alternative future management scenarios (Appendix D-PDEIS-3). Most alternatives include a combination of "regeneration harvests" (clearcuts) and partial cutting. This information can be used to calculate the area that would be covered by hydrologically immature stands (≤ 40 years of age) when each of these alternatives is fully implemented. To be conservative, I have considered only the regeneration harvests. From my Table 1, it is apparent that full implementation of Alternatives 1 or 2 would substantially **increase** the coverage of hydrologically immature land relative to current conditions. Alternative 3 would result in a reduction by about 1% and Alternatives 4 and 5 would each result in a reduction of about 7%. If thinned stands less than 40 years of age are included in these calculations (Table 2) then the percentage of the watershed in hydrologically immature stands increases even more.

This relatively simple analysis illustrates the precarious current state of the Lake Whatcom watershed and the need for restoration efforts. Clearly, the private non-forest lands are the biggest concern. However, this analysis illustrates that the initiation of timber harvest activities under Alternatives 1 or 2 could result in substantial additional

degradation of a watershed that is already showing many warning signs. Restoration of the DNR lands and maintenance of these lands in continuous older forest stands offers the best hope of maintaining water quality. At some point in the future, if the quality of runoff from the residential lands can be improved, then it might be possible to allow some limited timber harvesting on DNR lands. This probably will not occur for several decades. In the meantime, inputs to the lake from restored DNR lands offers the best hope of offsetting the pollution entering the lake from residential and commercial forestlands.

Biological Diversity: The PDEIS correctly points out that the highest levels of biological diversity can be found in landscapes that contain forest stands that span a wide range of ages. This would include the full range from recently harvested stands to old growth. Although this vastly oversimplifies a very complicated story, this is essentially correct. In comparing the various alternatives, they argue that Alternatives 1 and 2 will maintain the highest levels of biological diversity because they will restore and preserve some older stands and also maintain include significant areas in early seral stages through continuous timber harvesting. They then argue that Alternative 3, 4 and 5 will result in decreased levels of biological diversity because they fail to maintain any significant amounts of younger stands. This is an absolutely absurd argument. It ignores the obvious fact that timber harvesting on private lands will continue to provide an endless supply of recent clearcuts and young conifer stands in the Lake Whatcom watershed, the surrounding lands and throughout the rest of western Washington as well.

The rarest forest cover type in all of western Washington is low elevation oldgrowth. The DNR lands in the Lake Whatcom watershed offer an opportunity that is unique in the state. Western Whatcom County is the only place in the state where there is the potential for a more or less unbroken coverage of forest from the Cascades down to Puget Sound. Elsewhere in the state, low elevation forests have been converted to urban, suburban and agricultural uses. In these areas, the high elevation forests of the Cascades are separated from Puget Sound by many tens of miles of non-forested lands. The basic structure for this forest corridor from the North Cascades to the sea already exists in western Whatcom County. The low elevation forests that currently exist in this corridor support flora and fauna that do not exist in higher elevation forests. What is lacking from this corridor is the presence of significant blocks of older forests. These low elevation older forests, close to Puget Sound, would provide habitat for the Marbled Murrelet and a variety of other species of flora and fauna that are not found in younger forests. The DNR lands in the Lake Whatcom watershed currently contain only a small amount of older forest. However, most of the area includes forest stands >60 years of age. Given sufficient time, these stands could form an important link in a network of old growth reserves in this North Cascade to the Sea Corridor. Other important links in this network might include Larrabee State Park and the Arlecho Creek old-growth stand.

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Carbon Sequestration is one of the issues considered in the PDEIS as an alternative source of revenue to replace timber harvesting. A brief discussion of this issue is included on page 73 of the PDEIS and an economic analysis is presented elsewhere in the document. I am not an economist so I am unable to comment directly on the economic analysis. However, for the past ten years, I have been involved in a NASA-funded effort to develop a carbon budget for PNW forests. Based on this experience, I do feel qualified to comment on the discussion of carbon sequestration provided in the PDEIS. In particular, the information provided on page 73 is incomplete and very misleading. The discussion suggests that authors of this section do not understand the issue and therefore, I have serious doubts about the economic analysis that is presented elsewhere in the document. The authors state that timber harvesting leads to the sequestration of carbon in forest products and that the regrowth of young trees removes carbon from the atmosphere. Both statements are true but several other key parts of the carbon cycle have been left out and this leaves the reader with the incorrect impression that timber harvesting results in the unidirectional transfer of carbon from the atmosphere into permanent sequestration in forest products. This is absolutely positively not true.

The authors of this section either don't understand or have ignored the role of decomposition in the carbon cycle. Briefly, this cycle goes as follows. When trees are cut down for harvesting, about half of the biomass, and carbon, in the trees gets left out in the forest as unmerchantable material. This dead material begins to decompose at a rate of about 3% per year and this gradually return the carbon back to the atmosphere that was formerly stored onsite as living material. Of the 50% of the pre-harvest carbon that leaves the site on logging trucks, about 40% is lost to the atmosphere during the primary and secondary manufacturing process and through the loss of short-live forest products. Only about 30% of the carbon from the pre-harvest living pool ends up in long-lived forest products. Unlike what the authors of the PDEIS suggest, forest products do not last forever. Houses burn down. Fence posts rot. Paper gets burned. When these things happen, the carbon that was stored in these forest products goes back to the atmosphere. The aggregated decay rate for all of these long-lived forest products is about 2% per year. This decay rate reduces this initial forest products carbon pool by 50% within 34 years and by 90% within 112 years. Back in the forest, young trees are growing and yes, they are drawing carbon out of the atmosphere. However, the amount of carbon uptake by these young trees is much less than the total release of carbon to the atmosphere from the decomposition of logging slash and forest products.

The idea that timber harvesting results in a net storage of carbon in forest products is completely wrong. Additional information on this topic can be found in the following published papers:

Harmon, M.E., Ferrell, W.K. and Franklin, J.F. 1990. Effects on carbon storage of conversion of old-growth forests to young forests. *Science* 247:699-702.

Wallin, D.O., Harmon, M.E., Cohen, W.B., Fiorella, M. and Ferrell, W.K. 1996. Use of

remote sensing to model land use effects on carbon flux in forests of the Pacific Northwest, USA. Pages 219-237 In: Gholz, H.L., Nakane, K. and Shimoda, H. (eds). The use of remote sensing in the modeling of forest productivity at scales from the stand to the globe. Kluwer Academic Publishers, Dordrecht. ISBN 0-7923-4278-X

Cohen, W.B., M.E. Harmon, D.O. Wallin and M. Fiorella. 1996. Two decades of carbon flux from forests of the Pacific Northwest. *Bioscience* 46(11):836-844.

There are opportunities for carbon sequestration on DNR lands in the Lake Whatcom watershed. The way to achieve real carbon sequestration is not by harvesting more timber but by extending rotation lengths. Through multiple rotations, the amount of carbon stored in the forest products sector oscillates up and down. The **average** amount stored is a function of the rotation length. Longer rotations store more carbon, on average, than shorter rotations. Maximum carbon storage levels are achieved in old growth stands. Figuring out the rotation length that maximizes total revenue from both timber harvest and carbon offset trading is a task for a very good forest economist and this is outside my area of expertise.

The economists who wrote the analysis state that carbon offset credits are very thinly traded. I'd agree with this. Nevertheless, in emerging markets, there can be big opportunities and I would urge the DNR to explore this issue farther. There may be significant financial opportunities here.

Other Concerns with the PDIES:

Throughout the document, the DNR seems to show a consistent pattern of minimizing concerns about the potential adverse impacts of timber harvesting. In support of their assertions of minimal impacts, they frequently cite outdated scientific papers or fail to cite publications that present alternative views. This is inappropriate. There are many examples of this. Here is one. On page 102, the first two paragraphs discuss the potential for increased peak flow in response to timber harvest and roading. In support of their assertion of minimal impacts, they cite two papers from the mid-1970s (Rothacher, 1973; Harr et al., 1975). There has been quite a bit of work on this topic, including:

Jones, J.A., F.J. Swanson, B.C. Wemple and K.U. Snyder. 2000. Effects of roads on hydrology, geomorphology, and disturbance patches in stream networks. *Conservation Biology* 14:76-85.

Jones, J.A. and G. E. Grant. 1996. Peak flow response to clearcutting and roads in small and large basins, western Cascades, Oregon. *Water Resources Res.* 32:959-974.

Wemple, B.C., J.A. Jones and G.E. Grant. 1996. Channel network extension by logging roads in two basins, western Cascades, Oregon. *Water Resources Res.* 32:1-13.

In particular, the Jones and Grant 1996 paper has touched off a lively debate in the

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literature and several papers in support and opposition to this paper, and responses from the original authors, have appeared in the literature since then.

My point here is not that the authors are wrong on this particular point. However, on many many issues in the PDEIS, the authors have failed to acknowledge scientific uncertainty and opposing points of view. This lack of balance in the PDIES calls into question the objectivity of the authors. There is too much at stake here. We need to be careful. We need to make decisions based on a balanced presentation of the best scientific information that we have available to us.

I am a firm believer in the precautionary principle of ecosystem management. Given the uncertainties and the importance of the Lake Whatcom watershed as the sole water supply some 100,000 people I feel that it would be very foolish to harvest significant amounts of timber from the DNR lands in the watershed. Of the alternatives presented, I feel that Alternatives 4 and 5 provide the best chance of safeguarding the watershed.

Thank you very much for the opportunity to comment on the PDEIS. I look forward to seeing the DEIS. Please let me know if you would like me to clarify anything that I have discussed in these comments. I can be reached by telephone at 360-650-7526 or by email at wallin@cc.wvu.edu.

Sincerely,

David O. Wallin, Ph.D.
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EM 28

November 1, 2002

Ms. Barbara MacGregor
DNR SEPA Center
1111 Washington Street Southeast
P.O. Box 47015
Olympia, Washington 98504-7015

Dear Ms. MacGregor:

Thank you for the opportunity to comment on the Lake Whatcom PDEIS. I am very concerned about what I see taking place regarding DNR management in the Lake Whatcom watershed. It appears that some local residents and anti-timber activist have created concern over logging because they don't approve of it in their backyard.

As you know, The State of Washington has some of the strictest forest practice regulations anywhere in the U.S. We also recently completed new forest practice regulations and the State entered into an HCP with the Federal government after a lengthy process. It seems like every time we have new stricter regulations in place, some anti-logging group comes along to oppose it and we have to re-evaluate the management plans and regulations once more.

I suggest that the Department of Revenue show some backbone, stand up for its strict forest practice regulations and not be afraid to move on with its timber sale program. Our state has nothing to fear regarding the current forest practice laws and should stop acting like we do. We should stand up to the activists, explain our forest practice laws to the public and move forward with producing the revenues our forests are capable of producing.

Sincerely,



Gerry Millman

ASSET MANAGEMENT
PROTECTION DIVISION

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